Monthly

A Reference for Buyers

HITCHCOCK'S MACHINE TOOL BLUE BOOK

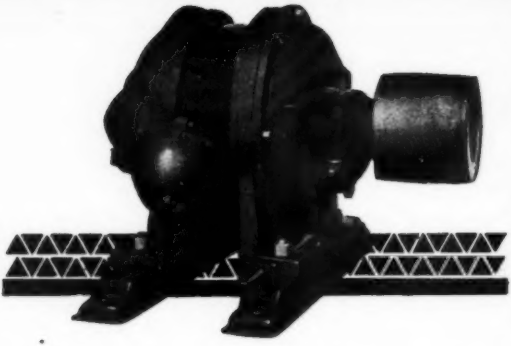
25,000

Controlled Circulation

Published By

HITCHCOCK PUBLISHING CO.

508 So. DEARBORN ST.
CHICAGO



The windings of Reliance Induction Motors are so thoroughly insulated that you can depend upon the motors to give satisfactory service even in dirty locations.

Bulletin 100 gives detailed evidence

Reliance Electric & Engineering Co.
1050 Ivanhoe Road, Cleveland, Ohio

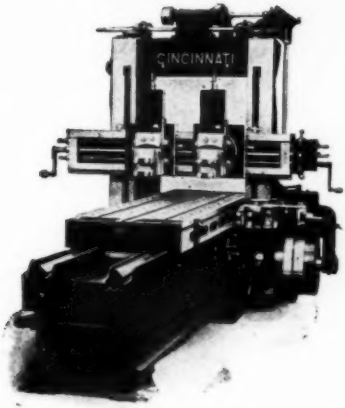
Branches:

Boston New York Syracuse Philadelphia Pittsburgh
Cincinnati Detroit Buffalo Chicago Birmingham, Ala.

RELIANCE AC DC MOTORS

Cincinnati Rapid Traverse Planers

Make REAL Cost Reductions



IN CINCINNATI Tu-Speed Planers, the Rapid Power Traverse, which is operated by a conveniently located handle, reduces the time for bringing the heads into position and ***increases hourly production.*** Other features are—Forced Lubrication, Box Arch, Box Table, Herringbone Gears, Long Down Slide, etc., etc.

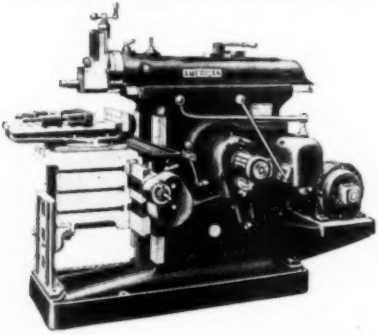
CINCINNATI PLANERS are built from 22" to 120" wide, of a range and combination to suit all classes of work. Write for our Rapid Traverse Planer Bulletin or for the complete Catalog, and let us know your planer needs. Your address? Ours is—

The Cincinnati Planer Co.

Cincinnati, Ohio, U. S. A.

The New "American Auto-Oiled"

The Shaper of Shapers



The "Auto-Oiled" is the result of 41 years of active participation in shaper development.

Its points of excellence are—Tremendous cutting power; unparalleled rigidity; permanent accuracy; automatic forced lubrication; multiple splined shafts; Timken roller bearings; multiple disc clutch and brake; V-type ram; improved table support; helical gears, alloy steel, hardened; tu-piece bull wheel; centralized control. Accessories and attachments for every conceivable kind of shaper operation.

We want every shaper user to know all about the "American Auto-Oiled"—how it does faster work and better work, with greater profit. Mail us your request for complete information today; don't delay—you'll not be obligated in any way.

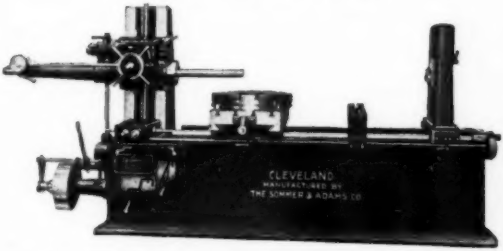
The American Tool Works Company

Cincinnati, Ohio, U. S. A.

LATHES RADIALS SHAPERS

No. 1 Cleveland Horizontal Boring-Drilling-Milling Machine

800 NOW IN USE



Our standard machines are all equipped with tapping attachment, power feeds to spindle, vertical power feeds to head, longitudinal feed to carriage, and power transverse feeds to platen. All speeds and feeds are reversible.

Length of bed, platen, column and outer support varied to meet special requirements. The machine shown in the above illustration has two extra feet of bed, 24 inch circular swiveling table graduated in ½ degrees, and auxiliary table.

In design the No. 1 Cleveland conforms to the very latest standards, with all gears and moving parts enclosed, and with ample power and wide range of speeds and feeds. Has centralized control, one handle to make complete change of speed or feed, and every operating convenience for quick and easy handling and maximum production. It costs less to buy than it does to continue the use of out-of-date equipment, no matter what its condition may be.

Glad to send you specifications and complete description

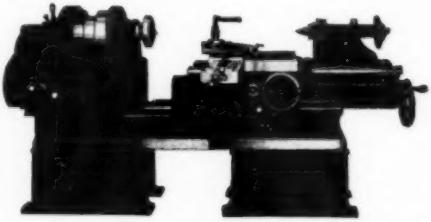
The Sommer & Adams Company

18512-18515 Euclid Ave., Cleveland, Ohio

A Lathe For Every Job

Without Tearing Down and Setting Up

There is hardly a reasonable limit to the work that can be done on this versatile machine. It enables the operator at all times to have a lathe ready for practically any job.



Rahn-Larmon 18"/36" Extension Bed Gap Lathe

Not only is it always ready for practically every job, but it is a real lathe on all of them. It is so sturdy in construction that it absorbs the vibrations of the heaviest cuts.

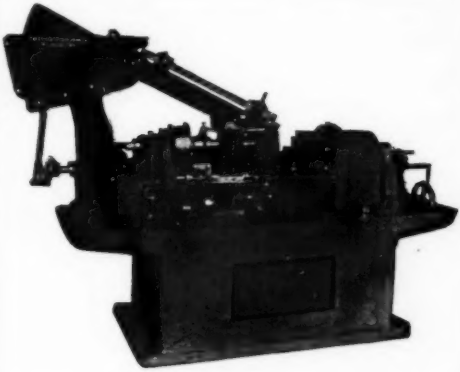
It reduces to a minimum the amount of equipment required, as well as setting-up time and operating time, in jobbing shops, railroad shops, or wherever there is a variety of work to be done.

It saves in investment cost, it saves in time and labor cost, and it increases output—a combination we are all looking for and one we are fortunate to find. Made in 18"/36", 22"/40" and 28"/50" sizes.

Let us hear from you. Glad to go into the matter of its application to your needs.

The Rahn-Larmon Company

Cincinnati, Ohio



"This is Production"

2800 Pointed and Threaded ½" Bolts Per Hour— One Operator!

WHEN USING

Four Economy Automatic Combined Pointing and Threading Machines.

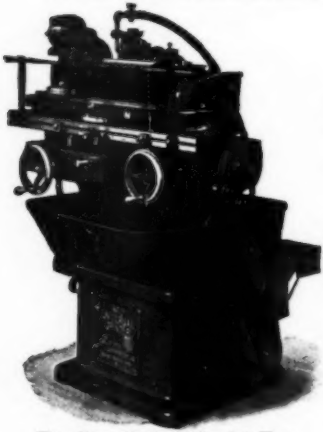
Capacity ¼"x1" to ¾"x5½" Bolt and Cap Screws.

The Economy Engineering Company

WILLOUGHBY, OHIO

Grand Rapids UNIVERSAL Cutter & Tool Grinders

With Self-Contained Motor Drive



Motor Driven No. 3, with Guards in Place

Our Nos. 3 & 4 Universal Cutter and Tool Grinders are superlatively high-grade machines.

Furnished either hand or power feed, wet or dry, motor or belt drive.

Our Nos. 1 & 2 are smaller sizes.

GRAND RAPIDS Universal Cutter and Tool Grinders Nos. 3 and 4 are duplicates excepting in the length of table and the longitudinal movement. They are superlatively high grade, designed for those who want the economy of the best. For detailed description write for the Bulletin.

WE HAVE FOUR separate illustrated descriptive Grinder Bulletins, covering *"Universal Cutter and Tool Grinders Nos. 3 and 4"*, *"Universal Cutter and Tool Grinders Nos. 1 and 2,"* *"Grand Rapids Drill Grinders,"* and *"Grand Rapids Tap Grinders."* We suggest that you write today for the Bulletin or Bulletins in which you may be interested.

Gallmeyer & Livingston Co.

342 Straight Ave., S. W., GRAND RAPIDS, MICH.

Cutter and Tool Grinders

For All Classes of Work

No. 12
Cutter and Tool
Grinder

The Nos. 10, 11 and 12 give a range of sizes that will take care of any kind of cutter and tool work as well as light cylindrical grinding.

Let us recommend the proper sizes for your work

LANDIS TOOL COMPANY

Waynesboro, Pa.

New York Office: 2907 Singer Bldg. Detroit Office: 5928 Second Blvd.
Chicago Office: 618 W. Washington Blvd.

LeBLOND
Patent Belt Shifter

A necessary safety factor and a valuable production increasing feature. It is applicable to any cone pulley driven machine tool.

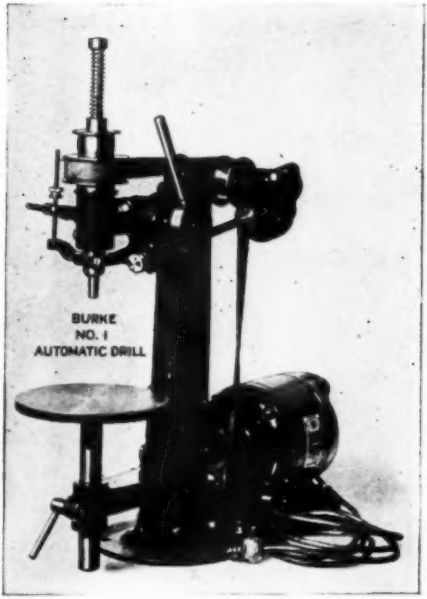
Write for our descriptive booklet and prices

THE R. K. LeBLOND MACHINE TOOL COMPANY

CINCINNATI OHIO

The Burke No. 1

Automatic Production Drill Press



The spindle is ***full automatic.*** One or more drills can be operated at a time, as it is not necessary to throw feeds in or out. But if the operator desires, the feed can be thrown out at any point, or can be thrown completely out and operated by hand. A tool that will stand in any production line and ***give real Burke service.*** Write for prices.

The Burke Machine Tool Co.

297 East 16th St., Conneaut, Ohio

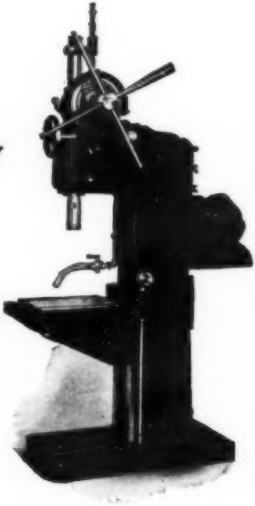
BARNES

PRODUCTION DRILLS

Power
Speed
Accuracy

General and Single Purpose

Belt and Motor Drive



Write for Circular

Established 1872

W. F. and John Barnes Co.

Rockford, Illinois

FOOTBURT

A Single Spindle Footburt Sipp Sensitive Drill

Made in three sizes of single and multiple spindle models

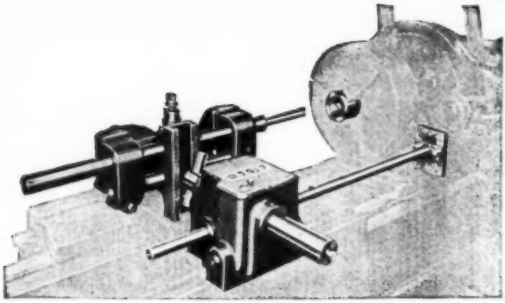
More holes with this machine

Why? Because you can change speeds in two seconds or belts in ten seconds—because the automatic idlers keep the belt pulling to capacity at all times—because the full ball bearing equipment and accurate machining gives a smooth, fast cut.

Write for No. 650 Folders

The Foote-Burt Company, Cleveland, O.

FOOTBURT



....oil-groove bearings like these—*four a minute!*

The Cisco Oil Grooving attachment is handily attachable to any lathe 16 to 20 inches inclusive; cuts a single or double oil groove of figure eight type inside or outside the bearing, the style and depth of groove being readily changeable by the operator.

Effective and efficient on small or large quantity production. The range of the regular machine is 6 inches in stroke length, but this can be lengthened depending upon the size machine mounted on. The diameter of the work to be oil grooved, is not controlled by the attachment, but by the size of the machine and chuck used.

The time required for putting an oil groove in a brass bush 2 inches long and 2 inches in diameter, in and out of the machine, is about four pieces per minute.

This is the most convenient and economical device available for oil grooving. It is a time-saver and money-maker wherever installed. Write for bulletin and prices.

The Cisco Machine Tool Co.

1700 Elmore Street, Cincinnati, Ohio

Threading at 3000 R. P. M.

These rods are being threaded with a No. 8-32 thread 5-16" long, at an average production of 1400 pieces per hour on our Standard High Speed Tapping Machine.

How about your threaded work?

Leland-Gifford Co.

Worcester, Mass., U. S. A.

BRANCH OFFICES:

Boston	Chicago	New York
Cleveland	Detroit	Rochester

Demco Drills

High Speed Ball Bearing

Drilling Machines

Model D—8" overhang.
3/8-5/8-7/8 capacity.
1 to 8 Spindles.
Floor or Bench.

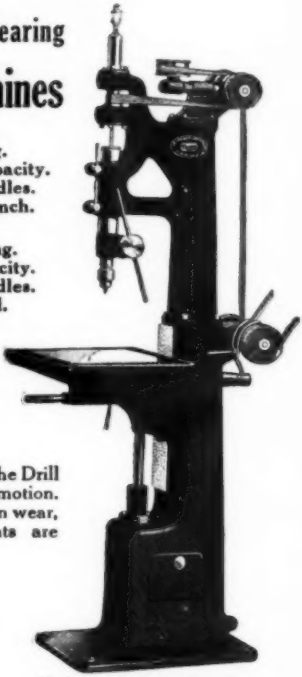
Model K—12" overhang.
7/8-1 1/8 capacity.
1 to 8 Spindles.
Power Feed.

Model D.V.—Vertical Motor Drive.

Model D.H. — Horizontal Motor Drive.

Remember, Demco has the Drill Spindle without lost motion. It compensates for its own wear, therefore no adjustments are required.

Sold by machinery dealers in all principal cities



Model D 1-Spindle Floor Type

DEMCO DRILLS—Cleveland, O.

Division of

Merit Oil Equipment Co., Cleveland, O.

Ask for latest issue of the Avey Catalog—completely describing the 20 Avey machines in detail, with other data.

You will find the ideal machine for the job—for any size of hole and every type of work—between the Avey No. 00 with 1 spindle for 3/8 hole and the Avey No. 3 with 6 spindles.

Twenty sizes or types to choose from—all-ball-bearing, fully automatic, semi-automatic or hand operated, 1 to 6 spindles—give you wide choice of units. Each embraces every refinement in design, materials and workmanship.

Avey *lowest cost per hole!*

The Avey Drilling Machine Co.
Cincinnati, Ohio

TRANSMISSION FALLS MACHINERY

Exceptionally long periods of service with a minimum of care and attention—that's the performance you will receive from Falls Transmission Machinery.

Each item of the line is sturdily made. Parts subject to strain are heavily reinforced. Falls Transmission Equipment measures up to the highest standard and meets the specifications of the most exacting buyers.

Obtain this performance in your plant. Let Falls quote on your requirements.

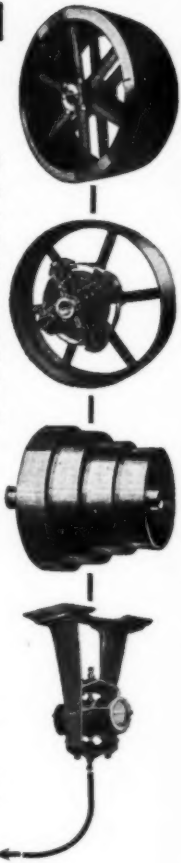
The Falls Handbook 18-K will help to solve your Power Transmission problems. Send for your copy today.

The Falls Clutch & Machinery Co.

KENT, OHIO

NEW YORK, - - 206-208 Fulton St.
CHICAGO, - - 625 Monadnock Block
BOSTON, MASS., - 52-58 Purchase St.

Clutches — Shafting — Couplings — Collars—Pulleys and Belt Drives—Sheaves and Rope Drives—Bearings—Hangers—Belt Tighteners



It Specializes

On Light Shaping and Slotting

7 in. Shaper Stroke

3½ in. Slotter Stroke

The Rhodes Shaper and Slotter

THIS IS THE DAY of specialization—and greater economy. It doesn't pay to use a big shaper on your dies, tools, models, and other light shaping and slotting, when it can be done with greater facility and economy on a machine that is built especially for that purpose.

THE "RHODES" is a quality tool, built for rapid and accurate production. Quickly changed from shaper to slotter, and vice versa, without resetting the work.

Ask your dealer or write for
CATALOG H22

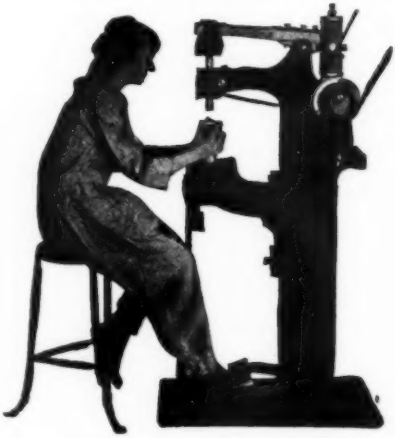
The Rhodes Mfg. Company
944 Park Road, -:- Hartford, Conn.

SHAPERS—RHODES—SLOTTERS

Cold Riveting

By

The High Speed Hammer Method



Strong, well finished heads on rivets, pins, studs, etc. 1-64" to 1½" in diameter.

SEND RIVETING SAMPLES

Write for our Catalog "C"

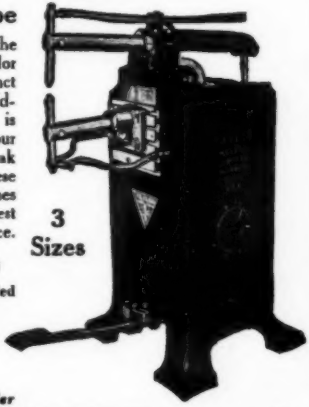
The High Speed Hammer Company, Inc.

311 Norton St., Rochester, N. Y.

A Big Step Forward in Welder Design—

The "N" Type

The introduction of the new "N" Type Taylor Welder marks a distinct step in advance in welder design. Now it is possible to keep your production at the peak day and night, for these new Taylor machines are built for the severest continuous-duty service.



3 Sizes

Exclusive Features

New Type Water-Cooled Transformer;
Adjustable Horns;
Adjustable Treadle;
8-step Regulator;
Automatic Switch;
One-Piece Base.

Write for New Folder

THE TAYLOR WELDER CO., Warren, O.

NEW YORK, 50 Church St. CHICAGO, Peoples Gas Bldg. DETROIT, Gen. Mtrs. Bldg.
CLEVELAND, Union Mortgage Bldg. PHILADELPHIA, 1220 Real Est. Tr. Bldg.

TAYLOR SPOT WELDERS

Type "N"

IMPROVED

Angle Iron Combination No. 455

Shears Notches and Bends 2-inch by 2-inch by ¼-inch Angles

Speed Notches and Bends a 2-inch by 2-inch by ¼-inch Angle Iron in One Minute Flat

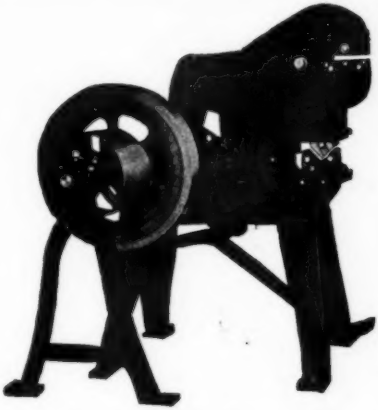
The bending unit of No. 455 has been redesigned so that it will bend the leg of an angle in either direction, inside or outside.

A unit of this Angle Iron Working Machinery completes your up-to-date shop equipment. Absolutely dependable. No changing of die. Always ready to use.

Write for Prices

WHITNEY METAL TOOL CO.

95 Forbes St., Rockford, Ill.



No. 52—Built in Seven Sizes

BELOIT

Combined Power Punches and Shears

Series 51 to 56

The Beloit Combined Power Punches and Shears offer an unequalled combination of simplicity of design, construction, range of capacity, and moderate initial cost.

Invaluable in any plant for punching, shearing and fabricating steel bars or structurals.

An indispensable equipment for the manufacture of automobile springs and bumpers.

Tell us about your Punching and Shearing requirements. Our line is extensive, and we have a Beloit Machine for your work.

Send for our new catalogue No. 11 which describes the Beloit line of Punches, Shears and Bending Rolls.

Hendley & Whittemore Co.

100 S. State St., BELOIT, WIS.

Built in sizes ½ to 600 hp.

THE trouble points of ordinary motors—bearings and insulation—have been turned into points of strength in Fairbanks-Morse Motors. Ball-bearing construction, with the use of grease lubricant instead of oil, positively prevents oil-soaked insulation. Endless oiling and constant watching of motor bearings is eliminated. Lubrication—a 20-minute job, done once a year—is practically the only attention required.

Our bulletins cover F-M Ball-Bearing Motor advantages. Write for them!

FAIRBANKS, MORSE & CO., CHICAGO

28 branches in principal cities at your service

FAIRBANKS-MORSE

Pioneer Manufacturers of

ball bearing motors

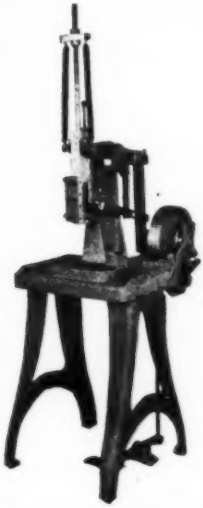
Use the motor that matches machine tool precision

Ask your machine tool dealer for facts and figures

AEA30.6

Taylor & Fenn Belt Driven

No. 12 Spring Press



UNIFORM BLOW SPRING PRESSES

Are made in three sizes, with either single or double action

Our No. 12 Belt Driven Spring Press, illustrated above, has a stroke of 3¼ inches. The foot treadle operates a safety clutch attached to the flywheel, which automatically stops the machnie after each stroke regardless of whether the treadle is released or held down by the operator. The clutch can be adjusted for a continuous stroke if desired.

Descriptive circular gladly sent upon request

The Taylor & Fenn Co.

Hartford, Conn., U. S. A.

PEERLESS

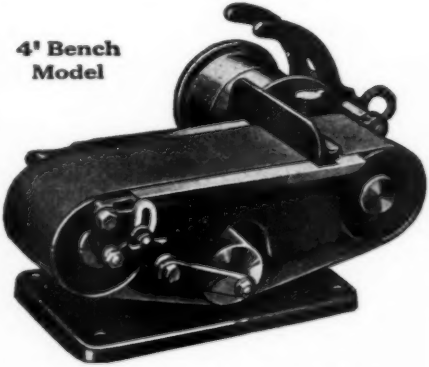
SURFACING MACHINES

for

Grinding and Finishing

Flat Work

4' Bench Model



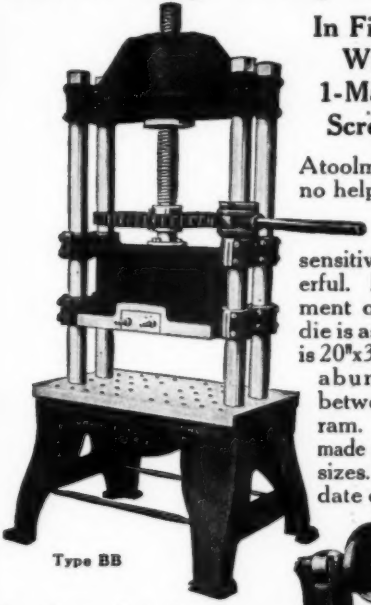
Larger Machines in Both Horizontal and Vertical Styles

SEND FOR FOLDER

PEERLESS SURFACING MACHINE CO., Inc.

TROY, N. Y.

Save Many Costly Hours—



Type BB

In Fitting Dies With Our 1-Man 4-Post Screw Press

A toolmaker requires no help in handling any dies. Machine is sensitive, rigid, powerful. Perfect alignment of punch and die is assured. Table is 20"x36", and there's abundant room between bed and ram. Press is also made in three smaller sizes. All up-to-date cost reducers.

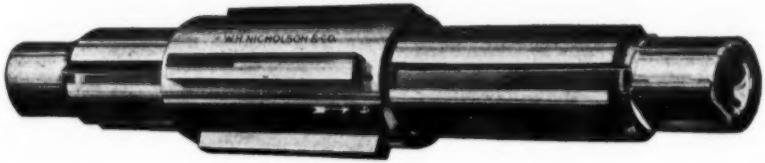
Surface Grinder

Is accurate, runs silently without chatter. Both feeds have graduated dial. Has all latest adjustments and attachments.

Details and price on request

JARECKI MACHINE AND TOOL CO.

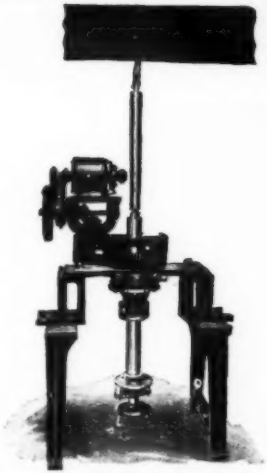
Dept. A. GRAND RAPIDS, MICH.



TURNING a solid mandrel up for every job is nearly as bad shop practice in these days, as making a solid reamer for every job instead of using an expansion reamer. Write us about expanding mandrels.

W. H. Nicholson & Co., 117 Oregon St., Wilkes-Barre, Pa.

Something New



The Pedrick Boring Unit

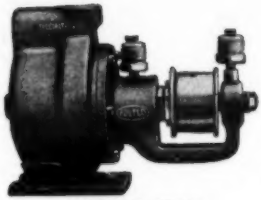
This picture of drilling an overhead beam is only an indication of what the Boring Unit can do. It is intended more for other work than for drilling, but to get the whole story, write for a circular.

The Boring Unit removes the limitations from the portable boring bar, and reaches a field of work that otherwise requires the largest machine tools.

Pedrick Tool & Machine Co.

3644 N. Lawrence St., Philadelphia, Pa.

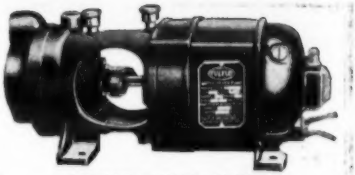
Builders of Portable Cylinder Boring Bars, Crank Pin Turners, Portable Millers, Pipe Benders, etc.



GRINDER PUMP

FULFLO

VOLUME PUMPS



MOTOR DRIVEN UNITS
⅙ to 5 H. P. 5 to 75 G. P. M.

FULFLO delivers coolant in volumes which promotes efficiency in cutting tools.

The full, copious flow from the Fulflo is needed to make the best tool, with the best coolant, most effective.

FULFLO does not clog, therefore it always works. It's the trouble proof pump.

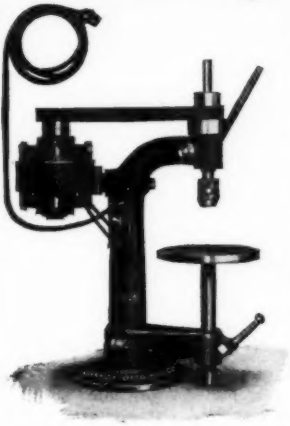
No machines stopped to unclog pump. All the chips you can get into it pass through without harm.

FULFLO has longest life because its only pumping part does not wear.

MANUFACTURED BY

FULFLO SPECIALTIES CO., BLANCHESTER, OHIO

Eliminating Vibration



Canedy-Otto

Sensitive Bench

Drill No. 29

Drills to a 10" center.
Capacity ⅜" diameter.
Run of spindle 2½".
Run of table 7".
110 V.—60 Cy.—1 Phase
1100—2200 R. P. M.

$44.00

Ready for the Job

Comes complete with Toggle Switch, Cord, Socket, Belt and Chuck

The vertical type ball bearing motor with which the Canedy-Otto No. 29 in equipped is attached in such a manner that the proper tension is constantly exerted on the belt, preventing loss of power. This design eliminates the use of gears and operates at high speed without noise or vibration.

All parts are accurately machined and balanced for high speed work. The spindle is so ground and fitted with ball thrust bearing and chuck that true running is insured.

Canedy-Otto Manufacturing Company

Main Offices and Factory—Chicago Heights, Illinois

New York Branch
407 Broome St.

Complete stock carried at branches

San Francisco Branch
955 Folsom St.

"Rarefieds" Save Power!

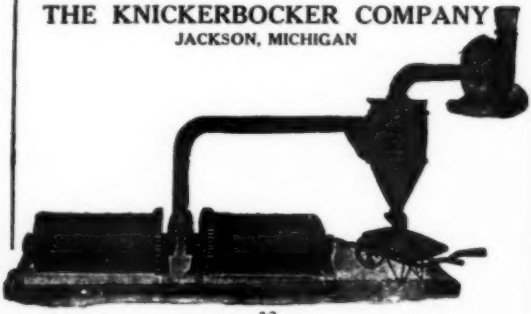
Knickerbocker quotes from a letter:—

"This reduction in horse power is a great thing. Today we are operating the entire department with two 10s and one 5, making a total of 25 horse power, and before the installation of your 'Rarefied' Dust Collectors we used 45 h. p. to do the same work." *Name of customer on request.*

That's the experience everywhere—in big plants and small ones, and with all kinds of heavy and cutting dust—the "Rarefied" saves power and repairs, assuring big economy and long life. It collects the dust and discharges it automatically before the air reaches the fan, which eliminates all cleaning out by hand.

Our explanatory Booklet is yours for the asking

THE KNICKERBOCKER COMPANY
JACKSON, MICHIGAN

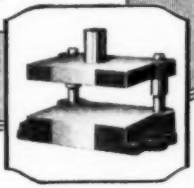


12 Types and 97 sizes

DANLY DIE SETS

are standard tools used by almost 4000 stamping manufacturers.

In first cost, alone, they save 20 to 50%. The saving in use is much greater. There is a type and size for every need. They can be obtained from stock, from nearest warehouse; and ordered from the Danly Catalogue—*so simple. Write.*



Just off the press—the new Danly Catalogue, in two sections of 12 and 36 pages. Send for your copy—the standard reference book among 10,000 designers, superintendents, draftsmen and tool room foremen.

Danly Machine Specialties, Inc.

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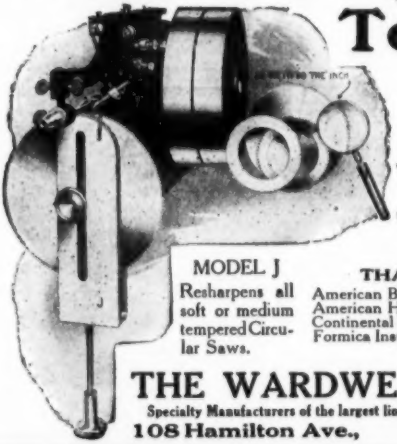
DANLY STANDARD

Long Island City, N. Y.
35 Wilbur Ave.

Will Sharpen Saws 32 Teeth to 1"



IT COSTS 5¢ To Sharpen a Saw on one of these Machines

MODEL J

Resharpens all soft or medium tempered Circular Saws.

THAT'S WHY—

American Brass ..... have 19
American Hard Rubber..... have 10
Continental Fibre ..... have 23
Formica Insulator ..... have 10

MODEL E

Salvages all Cold, Milling, Slitting and Screw Slotting Saws.

THE WARDWELL MFG. CO.

Specialty Manufacturers of the largest line of Saw Filers made in the U. S. A.

108 Hamilton Ave., Cleveland, Ohio

The Whirlwind Speed—

Of Air Tapping Increases Efficiency From 100 to 300%

Gaterman makes air do it—

In its design it combines the accuracy and tool economy of hand tapping with a whirlwind speed. One user writes, "It has made the most expensive tapping operation in the plant a commercial proposition. Another says, "It does the work of 18 men."

High Speed Pneumatic Oscillating Tapping Machine

Tell us your requirements

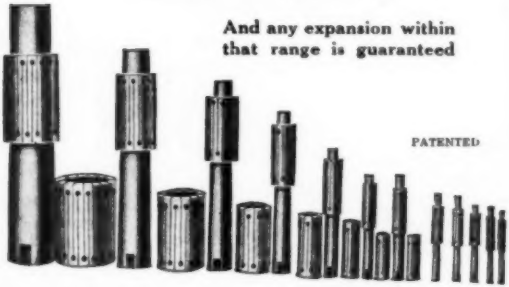
We'll guarantee our estimates.

W. GATERMAN MFG. CO., Manitowoc, Wis., U.S.A.

JUST 1 SET OF 12

Champion Expanding Mandrels

Will fill by thousandths any inside diameter from ½" to 6½"



And any expansion within that range is guaranteed

PATENTED

So Simple—only two parts.

So Handy—always ready for any job.

So Efficient—dependable for precision accuracy.

They are suitable fo all classes of work, large or small, in all kinds of metal. They hold work of any length of bore and do not chatter. They are lighter, more easily handled, and keep truer than common mandrels. They release work easily. And the grinding of all parts after hardening insures the greatest accuracy. The cost is only about one-fifth that of solid arbors of equal range graduated by sixteenths.

Our Catalog also describes

Champion Tool Holders, Champion Emery Wheel Dressers, Machinists' Vises and Clamps, etc., and our large line of practical, hard-to-beat Shop Furniture. Copy upon request.

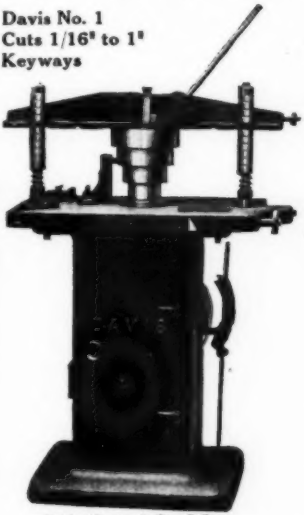
The Western Tool & Mfg. Co.

SPRINGFIELD, OHIO

Rapid Keyseating—

In Quantity or in Small Lots

Davis No. 1
Cuts 1/16" to 1"
Keyways



Cutting Keyway in Cone Pulley

THE DAVIS

has the speed for economical production of standard parts.

THE DAVIS

can be set up quickly in the general shop for all sizes of keyways within its capacity.

The Davis is simply constructed, is difficult to get out of order, and is easy to adjust and operate. It is a rapid and economical producer of accurate keyways under all conditions.

Write for folder, which describes it fully, with a table of cutting time that tells its own story.

Davis Keyseater Company

255½ Mill St., Rochester, N. Y., U. S. A.

Etchograph

Trade Mark

Patented July 8, 1913
Patent No. 1,309,160

Mark Tools and Parts Electrically

Without acid, fuss or trouble the ***Etchograph*** will mark any style figure, letter or design on tools and machine parts, whether iron, steel or steelite—and do it in one-fifth the time older methods consumed, too.

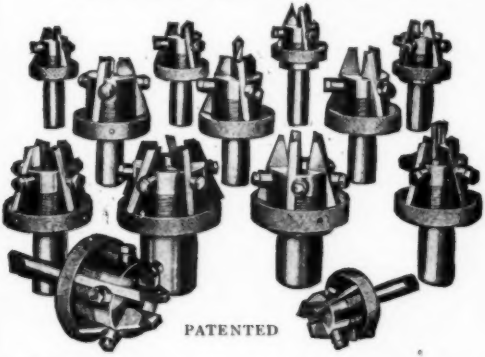
"It has made writing on steel like writing on paper with a pencil."

Write for illustrated booklet, and mention power available

William Brewster Company
50 Church St., New York

A Saving Hint for You

"Use Genesee Hollow Mills!"



THEY SAVE—Because the seven sizes cover the entire range from ⅛" to 2", which ordinarily requires hundreds of solid tools;—because one set of blades outlasts three to five solid tools, and can then be replaced at small cost.

THEY SAVE— Because they are ideal for finishing castings, forgings, etc., and more economical than non-adjustable mills for every purpose. Genesees cut up to 15" a minute in steel. They are stronger than solid tools, and as they cannot change in size, they are thoroughly dependable.

NOW MADE in six different styles, from the heavy roughing Style "B" to the accurate finishing Style "F." We also make Style "N" Mills for all Brown & Sharpe automatics, and special size and style to your order. You will find them all real cost reducers.

Equip your shop right—write us about your needs

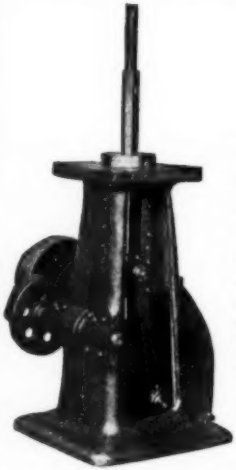
Genesee Manufacturing Co., Inc.

141 North Water Street, Rochester, N. Y.

Manufacturers of Genesee Rapid Production Tools. ***Est. 1908***

Our Line Covers All Your Keyseating Needs

And Every Catlin Cuts Keyseating Costs



Supreme in Speed Capacity Simplicity

CATLINS are used and giving solid satisfaction both at home and abroad, in shops and plants of every size and description.

This universal popularity can be ascribed to three characteristics of the Catlins—they

(1) do better work
(2) in less time and
(3) at less cost.

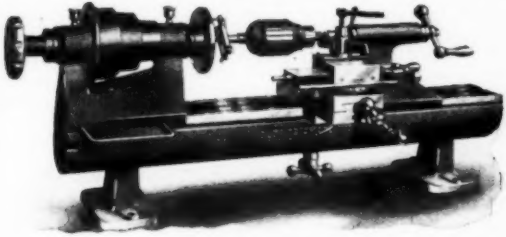
In construction they are a happy combination of simplicity and sturdiness. Catlins have less than half the number of parts of other keyseaters, and those parts are thoroly substantial without being clumsy. The picture shows the Catlin No. 1, belt driven, with three-step cone pulley. We also build them for motor drive.

Glad to mail you the folder, shop records, and partial list of big plants where Catlins have made good

Chattanooga Machinery Company

2401 Bennett Ave., Chattanooga, Tenn.

SLOAN and CHACE **Precision Tools**



No. 6 Precision Bench Lathe

Furnished for either Countershaft or Motor Drive

The No. 6 is designed to combine the strength and rigidity of a production tool with the accuracy of adjustment of a precision bench lathe.

The ample size of the castings and extra wide bed provide great strength and unusually large bearing surfaces.

The headstock bearings are tool steel, of the two-taper type, with an additional ball thrust bearing on the outer end to prevent excessive wear.

An unusually large key in the tailstock spindle prevents any tendency to turn when doing eccentric or extra heavy work.

Our handsomely illustrated catalog will be sent on request

Sloan & Chace, Inc.

361 Sixth Avenue, Newark, N. J.

High Quality—Right Prices—Good Service

Hollow Bored Forgings and Steel Shafts

Piston Rods **Rams**
Clutch Shafts **Steel Pipe**
Lathe Spindles **Etc., Etc.**

Send blueprints with trial order or for quotation

American Hollow Boring Co.
Erie, Penna.

HARDINGE

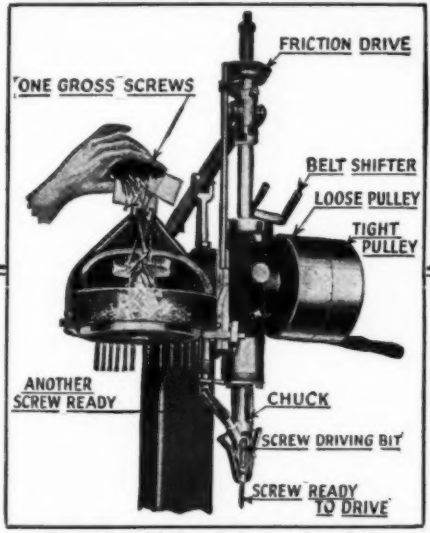
SUPREME SERVICE

The Cataract Line

of Lathes embodies the highest standards of Quality and Workmanship. *Catalog on request.*

Hardinge Brothers Inc.
4149 Ravenswood Ave. Chicago Ill.

Lowest Cost Screw Driving



Magazine Feed of the Reynolds Automatic Screw Driver

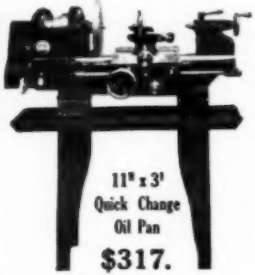
THE MAGAZINE FEED does all the handling of screws. All the operator has to do is to pour a gross or more of screws into the hopper, handle work with both hands, and press a foot lever. RESULT:—a boy or girl easily drives 800 to 1,200 screws an hour and an experienced operator up to 2,000.

There's a "Reynolds" for your work. Tell us, please, its dimensions over all, with length and gauge of screws used, and let us place our proposition before you.

The Reynolds Machine Company

Dept. H. H., Massillon, Ohio

Monarch Jr. Lathes



are the smallest members of the Monarch lathe family. Yet they are the "biggest little lathes" built.

The Monarch line of lathes includes all sizes and types from the little 9-inch Junior lathe to the big, massive 30-in. lathe. In this line there is a lathe to fill your requirements at the price you want to pay.

Send for Catalog

The Monarch Machine Tool Co.

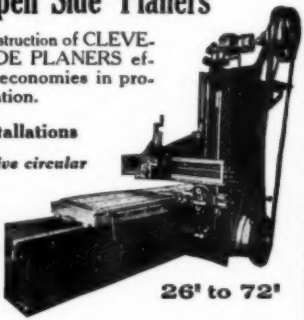
206 Oak Street, Sidney, Ohio

Cleveland Open Side Planers

The simplified construction of CLEVELAND OPEN SIDE PLANERS effects noteworthy economies in production and operation.

Over 1080 installations

Send for descriptive circular



Power Rapid Traverse; Dial Feed; Improved Head Clamp; Single Turn Rail Clamp; Automatic Trip to Rail Raising Mechanism; Forced Feed Lubrication to Vees.

26' to 72'

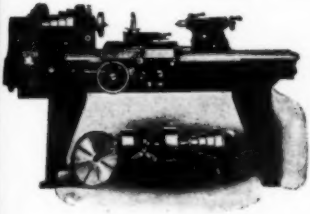
The Cleveland Planer Co.,

3148 Superior Avenue, CLEVELAND, OHIO

Established in 1900

Carroll Invisible Gap Bed Quick Change Gear Lathe

Takes care of a large variety of work—



for the
Service Station
Mfg. Plant
Jobbing Shop
Tool Room
and Schools

Circulars and prices sent on request

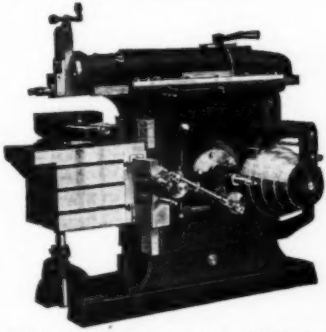
A. V. Carroll Machine Tool Co., Norwood, Cincinnati, O.

SHAPERS

12", 14", 16" Plain Crank, 16", 20", 25" B. G. Crank, either Cone Driven or through Speed Box.

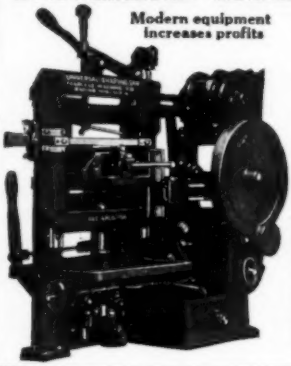
Belt Shifter Regular Equipment All Cone Driven Shapers.

32" Back Geared Crank, Single Pulley Drive.



The Smith & Mills Co., Cincinnati, O., U.S.A.

—PEERLESS—
UNIVERSAL SHAPING SAW



Modern equipment increases profits

Different Principles
Greater Efficiency
Give The Most Of—
Speed
Accuracy
Blade Economy

SIZES:
6"x6"--9"x9"--13"x13"

PEERLESS
HIGH SPEED HACK-SAWS
6"x6" 9"x9" 13"x16"
Sturdy--Efficient--Reliable

Peerless Machine Co.
1218 Sixteenth St.
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Easy Set-Ups
On Repair Jobs

The Combination Drill Table and Vise makes set-ups on even difficult jobs easy, and quickly made. It is always on the job. Users are boosters.

The Safety Tool That Saves Its Cost In Labor Every Six Months.

Modern Machine Tool Company
Jackson, Michigan

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USE the CHICAGO No. 2

POWER PIPE THREADING MACHINE

For
Production and Precision Threading

PORTABLE

Capacity:
¼" to 2" Pipe
½" to 1½" Bolt

Featuring:
1. Quick Die Change
2. Automatic Die Hsed
3. Three Speeds
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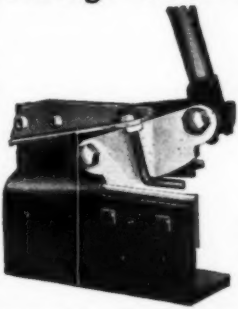
Chicago Pipethread Machine Co.

Office and Factory: 1623 Racine St., Racine, Wis.

Chicago Steel Slitting Shear



Light—Powerful Durable

Capacity 10 gauge Sheets Any Length or Width

Flat Bars 3/16x2 in. Weight 22 Lbs.

Price $12.50 Net
F. O. B. Chicago

Made by the makers of Chicago Steel Bending Brakes, Hand and Power, Over 25,000 in Use.

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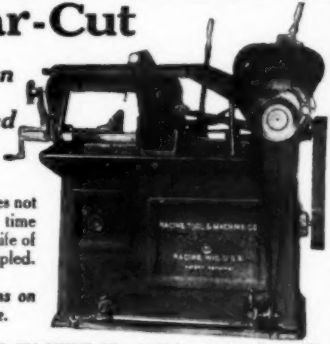
The New RACINE Shear-Cut

Production Saw for High Speed Metal Cutting



Time per cut does not vary. Cutting time reduced half. Life of saw blades tripled.

Send for bulletins on complete line.

RACINE TOOL & MACHINE CO., 1429 Junction Ave., Racine, Wis.

A RIVETING PROBLEM? LET GRANT SOLVE IT!

Many an awkward riveting job has had to be done by hand until they investigated the

GRANT ROTARY RIVET SPINNER

It is especially adapted to handling pieces of awkward shape and to work in hard-to-get-at places. And besides

It Is Noiseless

All work is uniform, as tight or loose as desired, with highly polished heads; its speed is a rivet per second, and it may be operated by cheap help.

Write for Catalog and send us a sample of your most difficult work for riveting

The Grant Mfg. & Machine Co.
C. E. Station, Bridgeport, Conn.

Specialists In small and medium size Gears

Specializing in the above, with the most modern facilities and skilled gear mechanics, we can offer especially good service.

Sizes up to 3 foot diameter

—

Send us your drawings

ALL TYPES—spurs, internals, bevels, mitres, helicals, spirals, worms, worm gears, sprockets, ratchets. ANY MATERIAL—steel, cast iron, brass, bakelite, aluminum, fibre, rawhide. ONE QUALITY—the best obtainable. Also a full line of ***stock gears*** for immediate delivery.

Massachusetts Gear & Tool Company

36 Nashua Street, Woburn, Mass.

HARDINGE

COLLETS

We are Specialists—

in manufacturing any design collet—from the smallest to the largest sizes, either from sample or drawing, and including Screw Machine Collets.

Prices quoted on application

Hardinge Brothers Inc.
4149 Ravenswood Ave. Chicago Ill.

For Sure Balance--

an absolutely level and solid "Way" is necessary

Bowsher "Balancing Ways"

are brought to an absolute *level* in ten seconds. No revolving parts.

The edges or "knives" upon which the work is tested are ground *true*, and are mounted upon the planed "ways" of a heavy bed or frame.

Standards adjustable to suit length of arbor.

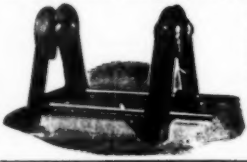
Three sizes for floor—one for bench use

Send for Catalog "F"

The N. P. Bowsher Co., South Bend, Ind.

Balancing Ways

Anderson Improved are Always Ready



Made in six sizes for balancing anything that turns on a shaft, up to 24,000 lbs.—pulleys, gin brushes, turbine rotors, crank shafts, polishing wheels, fly wheels, etc.; also for testing straightness of shafts, crank shafts, etc. No centers required; no leveling. Always ready and accurate; very sensitive.

"Swing"	20"	40"	60"	72"	96"	72"
Greatest distance bet. standards	20"	30"	30"	66"	88"	20'
Capacity in lbs.	1000	2000	2000	5000	10000	24000
Approx. shipping weight	45	90	150	350	650	
Code	Bead	Bid	Bis	Bib	Ben	

Any of above can be furnished with longer shafts

Anderson Bros. Mfg. Co.

1915 Kishwaukee St., Rockford, Ill.

Vanderbeek Universal Joints

—represent the practical refinements of 25 years experience in manufacturing Universal Joints. All parts are generous sized, fully protected against dirt, and are practically self-oiling. Exceptionally strong, they transmit full power up to 70°.

Vanderbeek Joints are in daily use on thousands of machines.

Write today for our Descriptive Catalog.

American Tool Works, Inc.
Hartford, Conn., U. S. A.

When Taps Break—

Work is Delayed
Cost is Increased

Avoid both by having an inexpensive Walton Tap Extractor handy to remove them. Simply give it one or two twists —and the piece is out. No loss of time, no damage to the work.

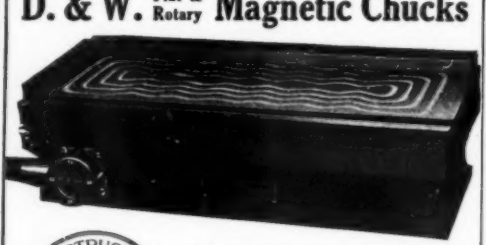
Made in 3 & 4 flute styles—sizes 8 to 1¼"

We ship on 60 days' approval.

Did you say "ship"?

The Walton Company
Hartford, Conn.

D. & W. Flat & Rotary Magnetic Chucks



INDESTRUCTIBLE DWV MAGNETIC CHUCKS REG. U.S. PAT. OFF.

One of our extensive line, featuring special improvements, that gives unsurpassed service in holding iron and steel pieces during machining operations. Let us report on any problems you have in connection with magnetic chucks.

J. & H. Electric Co.
159 Clifford St., Providence, R. I.

Abolish Expensive Hand Finishing

with a

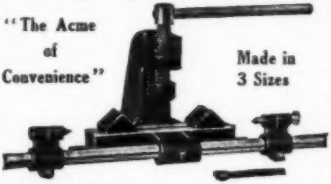
Simplex-A Abrasive Band Grinder

This grinder accelerates production and cuts costs. Hand emerying or filing operations are antiquated in comparison. The use of this new modern machine assures straight grain finishes with sharp edges. *Details of this and other styles and sizes on request.*

WALLS SALES CORP., 96 Warren Street NEW YORK

The Springfield Straightening Press

"The Acme of Convenience"



Made in 3 Sizes

Invaluable in the tool room, also for straightening crank and cam shafts and other automobile parts.

A GREAT LABOR SAVER, as you will find the arrangement of this Press makes it the very *acme of convenience*. Any work within the range of centers may be tested and straightened without unneccessary walking from press to lathe each time in straightening rough or finished work. Any length, however, may be operated upon. Of "Springfield Quality" thruout.

Write for folder illustrating many of its uses

The Springfield Machine Tool Company

633 West Southern Avenue, SPRINGFIELD, OHIO

We also manufacture Engine Lathes and Shapers

Curtis Universal Joints

of Simple, Rugged Construction

Send for new Catalog No. 47

BOSTON GEARS

BOSTON GEAR WORKS SALES CO.

Norfolk Downs, Mass.

BOSTON NEW YORK PHILADELPHIA CLEVELAND CHICAGO

"Ideal" Pumping Is Economy

The single cylinder "Ideal" Electric Automatic Air Compressor and Exhaust Pump delivers two cubic feet of free air at 300 R. P. M. Quarter H. P. motor required for 200 lbs. pressure.

Price, pump only, $22.50

← SINGLE CYLINDER

TWIN CYLINDER →

The twin cylinder pump delivers four cubic feet of free air at 300 R. P. M. Half H. P. motor required for 200 lbs. pressure.

Price, pump only, $32.50

Equip your laboratory or factory with one—"Ideal" for use in connection with spray gun, glass blowing, etc.

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2226 Belmont Ave., Chicago, Ill.

50 Years **50 Years**

Maintaining Tool Standards

Wade Collets, Chucks and Blanks

Since 1872 the American Watch and Tool Company has manufactured Collets for A. W. T. and W. W. Lathes, and Collets and Blanks for Screw Machines, and Step Chucks whose quality has become a by-word. The Wade Tool Company, their successors in the business, are rigidly maintaining the same standard.

Write for the Catalog of Precision Lathes and Tools

The Wade Tool Co.
49-59 River St., Waltham, Mass.

Sigourney Sensitive Drills

Plain or Ball Bearing Belt or Motor Drive

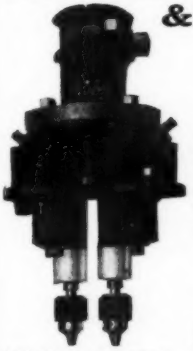
Sigourney Sensitive Drills are ***quality products,*** extremely sensitive, accurate and durable, with all parts interchangeable.

The illustration shows a Sigourney ball bearing, high speed drill press, made with one to four spindles, ***which operates up to 5000 R. P. M.*** The ball bearings are self-aligning, in double row.

Write for circulars and prices

Sigourney Tool Co.
Hartford, Conn., U. S. A.

Buhr Multiple Drilling & Tapping Heads



All Spur Geared

Both Fixed and Adjustable Centers For All Purposes

The New Buhr Multiple Driller incorporates the principles that have established the superiority of Buhr Patent Heads plus full adaptability.

It is spur geared thruout—arms and head are so ground that extreme accuracy is insured.

We furnish special arms for close centers

Drop us a line, and let us demonstrate Buhr's worthwhile saving

Buhr Machine Tool Co.
839 Green St., Ann Arbor, Mich.

A BIG Saving—

In Your Drilling Costs

A U.S. Multiple Spindle Drill Head transforms a single-spindle drill into a multiple spindle.

YOU CAN drill two or more holes with the same speeds and feeds you use for drilling one.

Special Heads Made to Order

THEY ALL have patented double adjustment, which permits drilling in any pattern. ***Writing us incurs no obligation.***

The United States Drill Head Co., 1952 W. Sixth St., CINCINNATI, O.

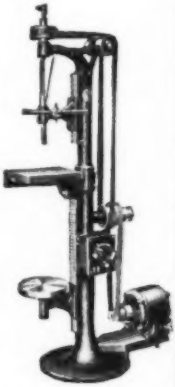
Michigan Agents—National Sales Engineering Corp., Detroit, Mich.

The U. S.—

A Complete Motor-Driven 14" Sensitive Floor Drill

Price with motor, switch and belts -	**$115**
Or with Countershaft for Belt Drive	**$70**

Nothing Better for the quick and accurate drilling of holes ½" and smaller. Steel spindle, ground to size, with ball thrust bearing; vertical adjustment to head; tables for long and short work; three speeds, etc. Send us your order, or ask for more data.



The U. S. Machine Tool Co.

1952 W. 6th St., Cincinnati, Ohio

Oberdorfer

"Ferol" Pump

An efficient, low cost pump specially made for handling coolants on machines. Capacity—6 gallons per 1000 R. P. M. Easily installed.

M. L. Oberdorfer Brass Co.
EAST SYRACUSE, N. Y.

The "GUSHER"

The Last Word in Machine Tool Coolant Pumps—

OF HIGHEST efficiency, requires the least power, and stands the wear and tear of modern shops almost indefinitely.

"GUSHERS" are ball bearing, have no gears, no foot or relief valves, no packing nuts, need no priming, and are not injured by grit or small chips.

CAPACITIES. 3 to 30 gallons per minute. Furnished with individual motors for any current, also for belt drive.

May we send Catalog and Prices?

The Ruthman Mchy. Co.
528-534 E. Front St.
CINCINNATI, OHIO

E-Z THREAD DIAL

Thread cutting on engine lathes made easy, and at lower cost.

Can be easily attached to all size lathes.

A reliable device that will aid the operator in the work of cutting threads.

Threads can be cut close up to shoulders as easily as the ordinary thread.

Eliminates stopping or reversing the lathe.

Saves cost of backing belt.

Saves power to drive same.

Fast growing in popularity.

A large corporation ordered nine at one time. Another five.

Sent on thirty days' trial.

Send for folder today.

JAMES M. COLVEN, 20 Wolffe Street, Yonkers, N. Y.

FEDERAL

Gauges
Dial Indicators

for Every Purpose

Accurate-Rigid-Lasting
Easily & Quickly Repaired

Federal Products Corporation
15 Elbow St., Providence, R. I.

Keep Stock at Machine

Pay Your Operator to Work—Not to Walk

If you work on bar stock, rod stock or screw machine stock, you can save valuable time by having a few

"HANDIEST RACKS"

Just the thing for keeping stock at machine. They save time, steps and confusion, are ideal for storage of assorted sizes, and make inventory easier. Manufacturers everywhere find in them a real economy.

So good we ship on trial

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The Big Manufacturers

in all lines of business, in every state in the Union, who use machine tools in their plants.

It goes to more of them than any other publication on earth, because we mail it to them.

Our method is simple, as most good things are, and as effective as it is simple.

Write for rates and full particulars

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For All Forcing Operations

Illustration shows our No. 55 Power Drive Press, which is adaptable for fast production work and capable of supplying ten tons pressure.

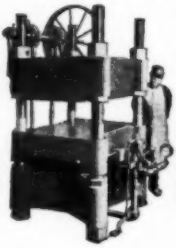
Write for our Bulletin—showing 30 different sizes

Atlas Press Co.

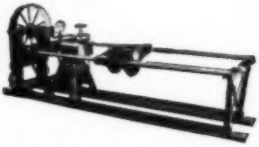
Department B,

Kalamazoo, Michigan

Lourie Hydraulic Presses



A complete line of Horizontal and Vertical Presses built for any tons capacity or specifications. Either hand or power operated.



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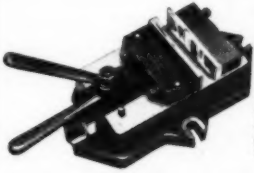
LOURIE HYDRAULIC CO.

SPRINGFIELD, ILL.

Quick Acting—Powerful Gripping

Hartford Milling Vise



Jaw width .....5"
Jaw depth ..... 1¼"
Maximum opening...3½"
Weight.....40 lbs.

Also made in the swivel-jaw type with hard or soft jaws, maximum opening 2¼".

The "Hartford" is designed for the very hardest, most accurate usage. Special construction includes cam and eccentric lever handles for quick acting, powerful grip—special iron base and drop forged steel parts for sturdiness and perfect alignment of jaws.

Send for descriptive catalog illustrating its usefulness

Hartford Special Machinery Co., 285 Homestead Ave., Hartford, Conn.

Saves Nine-Tenths of the Usual Cutting Time

The

Oliver Quality Metal Shear

will cut round and flat stock and thin sheets. Sent on trial.

Made in two sizes.

Write for leaflet No. H63 and prices

The W. W. Oliver Mfg. Co.
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Threading Tool

Right Hand Off-Set Side Tool

Right Hand Turning Tool

ARMSTRONG Tool Holders

They Save—

High Speed Steel, 90%
Grinding, ... 70%
Forging, ...100%

Over 100 tools for Lathe, Planer, Shaper, Slotter, etc., etc.

Get the free Catalog

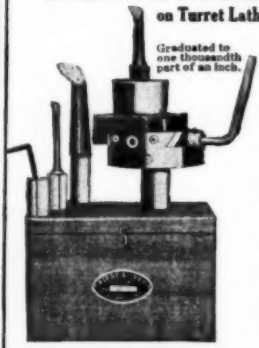
Armstrong Bros. Tool Co.

"The Tool Holder People"

308 N. Francisco Ave., Chicago, U. S. A.

R & G Adjustable Boring Tool

Invaluable in the Tool Room and on Production Work on Turret Lathes, Horizontal Mills, Etc.



It saves time and insures accuracy in boring jig plates, dies, etc., on milling machine table and drill press, that cannot be handled on the lathe. It readily trues to size holes drilled on turret lathe.

Only $38

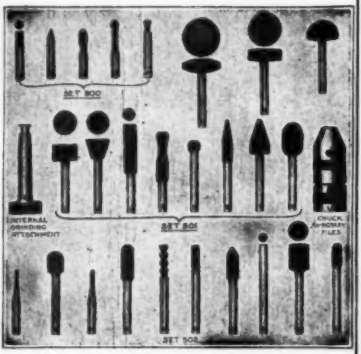
If standard taper shank is required, the price is Five Dollars extra.

Send us your order or write for complete description of this handy, time-saving outfit.

Ribbe & Grey

La Porte, Ind.

HIGH SPEED HAND CUT ROTARY FILES



Strand

Rotary Files

Used with Strand Flexible Shaft Machines. Are giving excellent service.

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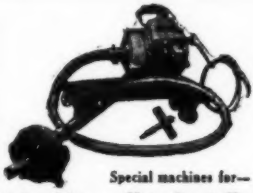
N. A. Strand & Co.
5001 No. Lincoln St.
CHICAGO



BIAX

Biax makes flexible shaft machines for drilling, boring, grinding, polishing, screw-setting, nut-setting, etc.

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Special machines for—

Automobiles	**Motor Repair Shops**
Speedometers	**Pattern Shops**
Woodworkers	**Boilers (Cleaning)**
Railroads	**Machine Shops**
Street Railways	**Welders—Foundries**

Biax Flexible Shaft Company

136 Liberty Street, NEW YORK CITY

Mid-West Distributor—Tachometer Division Elgin National Watch Co., Chicago, Illinois.

New England Distributor:—Biax Flexible Shaft Co., Worcester, Mass.
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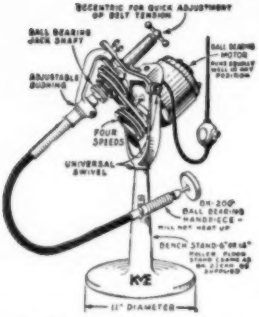
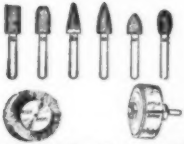
Keller "BK" Flexible Shaft Grinder

the Machine of 100 Uses



¼—⅓— ½H. P.
Speeds up to 10,500



COMPLETE LINE OF ACCESSORIES

Rotary Files—
Emery Wheels—Sanding Drums—
Wire Brushes, Etc.

Keller Mech. Engineering Corp., 58A Washington St., **Brooklyn, N.Y.**

Efficiency and Economy in Both Mall Machine & Patented Wheel

1st—The Mall Flexible-Shaft Machines lead all others in speed and quality of work in

Metal Finishing,
Grinding, Drilling,
Polishing, Buffing,
Sanding, Cleaning,
Screw Driving, Etc.

2nd—The Mall patented pneumatic polishing wheels, as furnished with our machines, can be placed on any standard grinding machine arbor similar to an emery wheel. They are a revelation in efficiency and economy.

Send for circular today

MALL TOOL CO., 8369 So. Chicago Ave. CHICAGO, ILL.

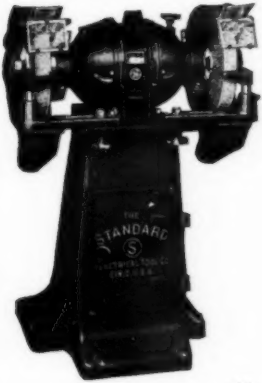
NORTH SIDE
Electric
Grinders—Buffers

Built complete ready to run.
No extra wiring required.

SIZES—¼, ½ & ¾ H. P.
A. C. 110 or 220

The North Side Tool Co.
DAYTON, OHIO

Standard Ball Bearing Grinders



Made in sizes from ¼ H.P. up to 5 H.P.

Tool Post Grinders
¼ to 2 H. P.

Polishing and Buffing Lathes
¼ to 5 H. P.

Aerial or Hand Grinders
¼ to 3 H. P.

Bench Grinders and Buffers
¼ to 2 H. P.

Drills—¼" to 1½".

Send for Catalog

The Standard Electrical Tool Co.
1948 W. 8th St.,
CINCINNATI, OHIO

Proved Reliability—

Speed—Economy

The Cincinnati

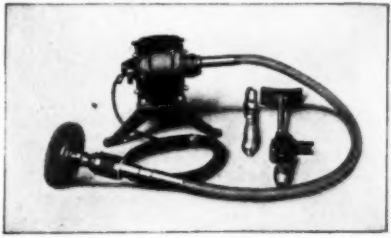
DRILLS
BUFFERS
GRINDERS

Write for catalog and prices

The
Cincinnati Electrical Tool Co.
2678 Madison Road
Cincinnati, Ohio

The Whirlwind Buffer and Grinder

Will cut the cost on any unhandy grinding or polishing job



Send for our latest bulletin

Stow Flexible Shaft Co., 3454 Ludlow St., Philadelphia, Pa.

The Best Since 1876

Thor ELECTRIC DRILLS

A Powerful Drill

It's a "built in" characteristic of every ***THOR*** Drill that it will not stall on the job. The way it eats up the work, hour after hour, quickly and efficiently, will make a hit with you. And it's safe—a 3 wire safety cable is standard equipment. Try a ***THOR*** in your own plant on your own work for 30 days, on our free trial offer. If it does'nt satisfy you, send it back at our expense. No obligation and no red tape. ***Write us.***

Independent Pneumatic Tool Co.
600 W. Jackson Blvd., Chicago, Ill.

The "Utility"

Counterbore and Spot Facer

With the Pilot that cannot twist off—cutters that cannot break, and are easily removed from holder—set screws that cannot loosen.

Holders are Accurately Ground—cutters are of high speed steel specially tempered.

Its Featured Improvements make for dependability and economy.

Glenzer tools are self-salvaging; send for circular.

The J. C. Glenzer Company
6469 Epworth Blvd., Detroit, Mich.

Ettco Keyless Ball Bearing Drill Chucks

Tremendous Gripping Power

Seven good reasons for using the

ETTCO

1. Lighter in weight.
2. All hardened parts.
3. Keyless.
4. Hand operated.
5. Ball bearing.
6. Continuous grip.
7. Simple construction.

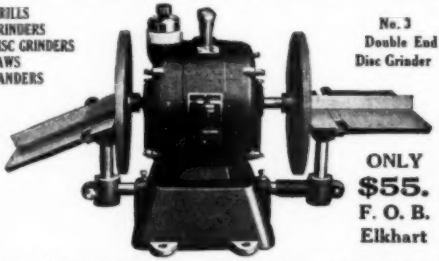
Eastern Tube & Tool Company, Inc.

600 Johnson Avenue, BROOKLYN, N. Y.

Winterhoff Motor Driven Portable Tools

DRILLS
GRINDERS
DISC GRINDERS
SAWS
SANDERS

No. 3
Double End
Disc Grinder

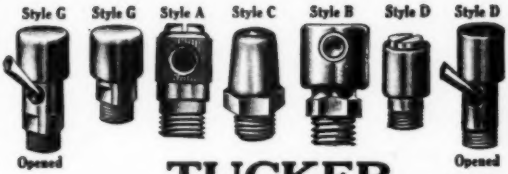


ONLY
$55.
F. O. B.
Elkhart

The No. 3 has been designed to meet a demand for a medium priced machine that would furnish a true flat grinding surface, and would stand up under any usage. Its sturdiness, accuracy and handiness are unsurpassed.

Write today concerning Winterhoff Portable Tools.

Winterhoff Tool & Machine Co., 109 South Elkhart Ave., ELKHART, IND., U.S.A.



TUCKER

Oil Hole Covers

ALSO—HERCULES
SHEAR AND ROD CUTTERS
AND
SCREW MACHINE PRODUCTS

Style E

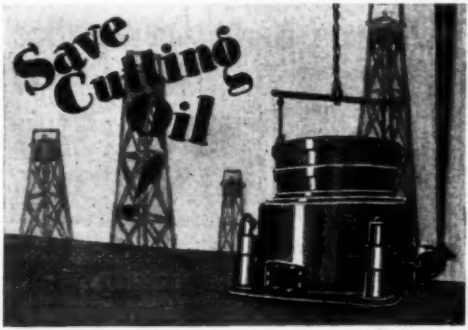
Style F

A Type for Every Service

Send for Revised Catalogue

W. W. & C. F. TUCKER, INC., Hartford, Conn.

FOREIGN AGENTS: Fenwick Freres & Co., Paris, France
Alfred Herbert, Ltd., Yokohama, Japan



Tolhurst Chip Wringers reclaim 6 to 15 gallons per load and handle three or four loads per hour.

Write

TOLHURST MACHINE WORKS
TROY, N.Y.

DEEP HOLES

A PICNIC

for this keyseater. This tool will reach into places no other keyseater will touch.

Acquaint yourself by getting Catalog 0

National Machine Tool Co.

2268 Spring Grove Ave., Cincinnati, O.

Keyseats Right On the Spot

No Dismantling—No Fuss

The BURR Portable Keyseater

Cuts keyways up to 12" long, in shafts up to 5" diam., anywhere, in any position.

Have one on hand for your next emergency—the cost is often saved on a single job. The seven sizes are ***quick*** and ***accurate***. Hand or power driven. Over 10,000 in use. ***Order yours today and save money!***

JOHN T. BURR & SON

422 Kent Ave., Brooklyn, N. Y.

Light—when and where wanted!

SO EASY when you use the handy "AUTEX" swivel jointed extension reel.

It saves time and speeds up the work in Machine Shops, Service Stations and Industrial Plants of every size. Good light enables men to do good work.

Approved by the Underwriters

Now equipped with Belden Rubber Cord

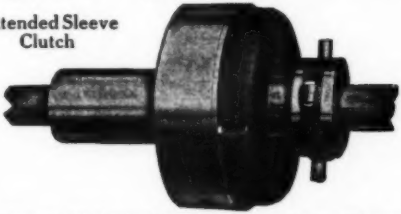
Write for descriptive circular

The Cincinnati Specialty Mfg. Co., Inc.

1903 Powers St., Cincinnati, Ohio

Edgemont "Type B" Friction Clutch

Extended Sleeve Clutch



The "Type B" Friction Clutch is an improved expanding type. It fills the need of an efficient and inexpensive method of driving a large variety of machines.

Furnished in pulleys, extended sleeves and cut-off couplings.

Write us about your clutch troubles. We can solve them

Edgemont Machine Co., Inc., DAYTON, OHIO

How would you like—

Ettco

to tap small holes as easily as you drill them; to tap them 2 or 3 times faster than usual; to wear out the small taps you are now breaking?

The Ettco High Speed Tapping Attachment usually increases output 100%. When a Gun Tap can be used the increase is as high as 300%.

Try one for 10 days—if you can then spare it, send it back.

Try one for 10 days

Eastern Tube & Tool Co.
600 Johnson Ave., Brooklyn, N.Y.

No. 2 ALTO Motor Driven Three Speed Tapping Machine

Semi-Automatic

SAVES—time.
SAVES—taps.
SAVES—in the first cost and in the long run.

Its main points are—

Motor driven, 3 speed, double speed reverse, quick change, back geared cone clutch. Sensitive for small tapping and powerful enough to drive ⅝" taps through steel.

We also make smaller high speed tappers.

Write for descriptive literature and attractive prices

The Alto Mfg. Co., 1647-51 Wolfram St. Chicago, Ill.

Save Time
Setting Gang Milling Cutters

Eliminate Thin Washers

Hardened and Ground

PATENTED

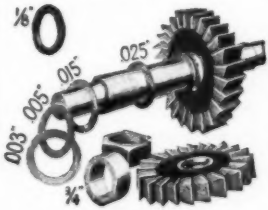
"Wear-Ever" Adjustable Spacing Collars
permit setting cutters to the thousandth part of an inch without removing from the arbor.

Stock sizes for ¾" to 2½" arbors, sent on approval
They are adjustable in 12 steps of 2/1000 inches

SCULLY-JONES & CO. *TOOL DIVISION*
13th and Robey Streets **CHICAGO, ILL.**

Steel Spacing Washers—

Made of a good grade of Cold Rolled Strip Steel, also known as Shim Steel



Stock sizes for arbors of following diameters: ⅝, ¾, ⅞, ¾, ⅞, 1, 1⅛, 1¼, 1⅜, 1½, 1⅝, 1¾, 1⅞, 2, 2¼, 2½, 3, 3½ and 4 in. and larger.

Stock thicknesses: .002, .003, .004, .005, .006, .007, .008, .010, .012, .015, .020, .025, .032, .047, .063, .093 and .125 inch.

Other thicknesses up to 3.000" made to order, with keyways if so ordered.

Ask us to send samples; you'll like them

Detroit Stamping Company
3443 West Fort St., **Detroit, Mich.**

"Hallowell" All-Steel Tool Stands

make for faster work!

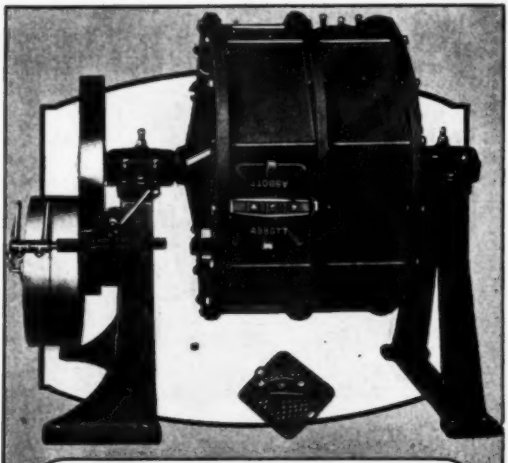
Write for prices, today!

With "Hallowell" Tool Stands you move the tools to the job. Quicker—easier. Broad open shelves—tools always in sight—no time wasted hunting the right one.

Standard Pressed Steel Co.

Box 19 Jenkintown, Pa.

Manufacturers of "Pioneer" Hangers and "Unbrako" Set Screws and "Gast" Oilers for Loose Pulleys.



Abbott Burnishing Barrel Finishes at Fraction Cost

Hand burnishing produced highly satisfactory results, but it was slow and costly. The Abbott Ball Burnishing Barrel combines the advantages of hand burnishing with speed and uniformity, which are not attainable with any hand or semi-automatic method.

Investigate! Put your finishing problem up to us. Send us representative samples of your work so that we can conduct experiments and make recommendations for equipment best suited. No obligations.

THE ABBOTT BALL COMPANY

"Originators of Commercial Ball Burnishing"

1043 New Britain Ave., Hartford, Conn.

The Marvel Metal Band Saw

Write for big list of satisfied users, many of whom have reordered.

Always ready for any sawing job, on either large or small work.

Marvel Metal Band Saw No. 8

UNIVERSAL in its adaptation to every variety of metal sawing. It saws bars, beams, channels, tubes, etc., rapidly and accurately, and does the finest tool room work. Saws at an angle either way without swinging the bar around the shop. Has big capacity up to 18". The large bed gives lots of room for material and tools. A saw for every need.

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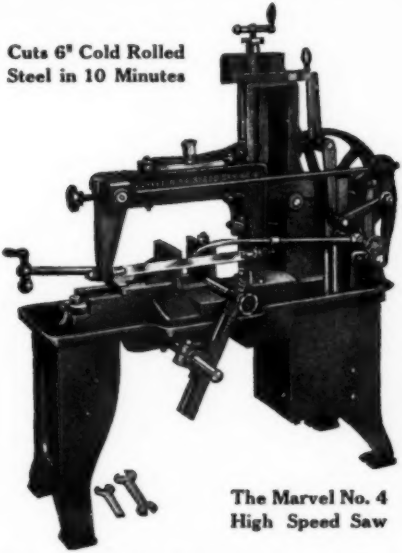
ARMSTRONG-BLUM MFG. CO., Fra

A Marvel of Speed and Economy

Cuts 6" Cold Rolled Steel in 10 Minutes



The Marvel No. 4 High Speed Saw

Blade frame can be shifted so as to use up all the teeth in blade. The cutting speed of this machine is a revelation to hack saw users. The blade is always horizontal. Cuts on the draw stroke, with quick return. Adjustable stroke 4" to 6½". Automatic stop at any desired depth of cut.

Ask about our new High-Speed-Edge Hack Saw Blades.

al Band Saws and Hack Saws, belt or motor driven

O., 341 North Francisco Ave., CHICAGO, ILL., U.S.A.

FREE ONE FULL SIZE BAR "ALBU-BAR" Belt Dressing

Cut out this Coupon and Mail to

The Geo. H. Garnet Co., Allentown, Pa.

—QUESTIONAIRE—

Yes or No

Do You use Bar Belt Dressing.....

Do you use Paste Belt Dressing.....

Do you use Liquid Belt Dressing.....

What Quantity per year.....

.....

.....

OUR JOBBERS

Name and Address is

.....

.....

"ALBU-BAR" Belt Dressing

Is a product of superior quality, backed by twenty-seven years experience in manufacturing belt dressing for the largest belt users.

When treated with "Albu-Bar" regularly, belting returns value to the user. Mail coupon at once.

NAME.....

CITY.....

STATE.....

FREE ONE FULL SIZE BAR "ALBU-BAR" BELT DRESSING

The ideal disc

for YOUR Disc Grinders!

The Heavy-type Gardner G. I. A. Disc is

1. Long-lived
2. Fast-cutting
3. Cool-cutting

It reduces the maintenance expense of the modern Disc Grinder to a minimum; it makes possible the handling of much work which formerly could not be performed on any machine of this type.

Write for our G. I. A. Folder!

GARDNER MACHINE COMPANY

Near Wheeler Ave., Beloit, Wis., U. S. A.

"Borgeson Universal Joints"

Are you a user of Universal Joints? If so!

Remember well and bear in mind that a good Universal Joint is hard to find. But if you want one tried and true, you will want the "Borgeson" before you are through.

You will become not only a "Buyer" but a "Booster" for "Borgeson."

SIZES: ⅜, ½, ⅝, ¾, ⅞, 1, 1⅛, 1¼, 1½, 1¾, 2, 2½, 2⅞.

Should you require Special Universal Joints, be sure to write for quotation.

Complete description gladly furnished upon request

The Borgeson Mfg. Co., Inc.

Torrington, Conn.

Long Life in

BRIDGEBILT

Factory Seating

Select the chairs and stools for your factory from this line. They will meet your particular needs and stand up under any wear you give them.

Write for prices and illustrated folder

The Chicago Wire Chair Co.

619 No. LaSalle St., Chicago, Ill.

THOMPSON
10"x36"
Universal

ALL Grinding on ONE Machine—

Thoroly efficient, accurate and dependable. Work adjusts to a fixed grinding wheel—an exclusive feature that's better.

Does all kinds of grinding like a single purpose machine.

Can now be equipped with the new auxiliary coarse cross feed for surface grinding.

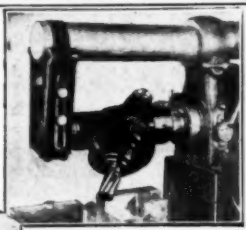
Saves
Time
and
Money

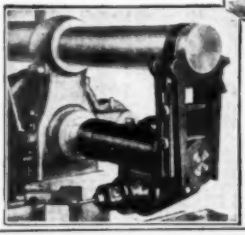
The Thompson Grinder Co.
Springfield, Ohio

REDUCE Set-ups on intricate work with the

New Hevy-Du-T

Universal Milling Attachment





Allows the spindle to operate at any angle in any plane. On or off any milling machine in three minutes. Write for the interesting details today.

PORTER-CABLE

MACHINE CO.
Salina St., Syracuse, N. Y.

Handy–Safe–Economical

The "CanTon" Portable Crane, Hoist and Truck

Handy—because one man and a "CanTon" will easily lift and carry what would be a hard task for 6 to 10 men.

Safe—because the new Safety Friction Load Brake can be added at small extra cost to both new and old "CanTons."

The ***Economy*** is obvious.

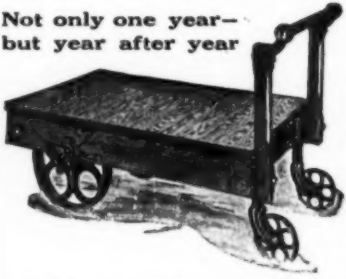
The several sizes are shown in Booklet E-8

CANTON FOUNDRY & MACHINE CO., Canton, Ohio

New York Office: 203 East 15th Street, Second Floor

Earn 500% Annual Dividends

Not only one year—but year after year

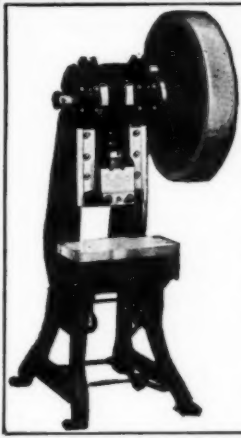


Mechanical and Efficiency Engineers say that **Towsley Trucks** pay for themselves five times a year.

Anything which earns 500% deserves your prompt attention.

Write for facts and figures; you'll never regret it

John T. Towsley Mfg. Co., Cincinnati, Ohio, U. S. A.



Performance

is the real basis of Punch Press Value. Rockford Hi-Duty Presses' ***advanced design*** enable them to meet Modern Demands.

They earn their preference by their earning capacity.

Write today for catalog

The Rockford Iron Works
Rockford, Ill.

T. H. L. Punches

Insure Continuous and Profitable Production

Because they are made of the right quality of tool steel.

Because they are hardened with every care.

Because all our experience of 35 years is centered in making them accurate, rugged and dependable.

Large stock of regular sizes
Special sizes quickly made

T. H. Lewthwaite Machine Co.
311 East 47th St., *(Est. 1890)* **New York City**

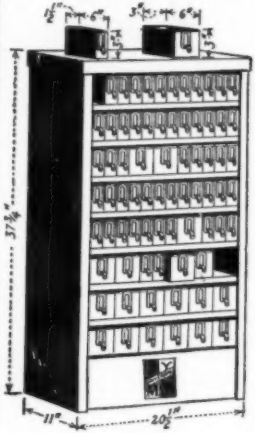
SALE Get These Plant Necessities at BARGAIN PRICES

New
TIME CLOCKS
$150 Complete

Made by International Time Recording Co. Original cost $292. Two color, red and blue, full automatic type, with pair of racks, in and out, holding 200 cards. Out-of-town shipment $10. extra for crating.

Double Door
STEEL STORAGE CABINETS
$29.75 f. o. b. Aurora, Ill.

Brand new, 36"x18"x74". Dark olive green enameled. Four adjustable shelves, lock and 2 keys. Shipped knocked down.



New All-Steel
SMALL PARTS CABINET

The handiest thing made for keeping bolts, nuts, drills, screws and a thousand other small parts. Made in three styles.

Prices: Combination (56 small and 20 large drawers) as shown in illustration, $42.75; 96 small drawers only, $49.75; 48 large drawers only, $39.75; f. o. b. New York.

New York Machinery Co.
200 Fifth Ave., New York City

Analysis of Circulation of

HITCHCOCK'S MACHINE TOOL BLUE BOOK

By Dun and Bradstreet Ratings

	Number Concerns
Exceeding $1,000,000	1,483
$500,000 to $1,000,000	916
$300,000 to $ 500,000	948
$200,000 to $ 300,000	842
$125,000 to $ 200,000	1,305
$ 75,000 to $ 125,000	1,455
$ 50,000 to $ 75,000	1,162
$ 20,000 to $ 50,000	2,847
$ 10,000 to $ 20,000	1,879
$ 5,000 to $ 10,000	1,672
TOTAL, Private Concerns Rated over $5,000	14,509
Steam and Street Railway Mechanical and Purchasing Officials, Government and Municipal Plants, Technical Schools, Foreign Dealers in American Machinery, Etc.	3,470
TOTAL to Buyers of Known Responsibility	17,979
*Concerns quoted in Dun or Bradstreet, but without Capital Rating	2,802
Concerns not yet in either Dun or Bradstreet, but in current Telephone Directories	1,799
Concerns rated below $5,000	2,677
TOTAL CIRCULATION	**25,257**

*This group includes a considerable number of large concerns, and many small concerns of high credit, whose capital rating is not given by either of the commercial agencies.

Classified Finding Index

Air Compressors, Electric
Petrick Bros., 2226 Belmont Ave., Chicago

Arbors, Solid
Nicholson & Co., W. H., Wilkes-Barre, Pa.

Auto-Gages For Dies
Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

Automatics
New Britain Machine Co., New Britain, Conn.

Balancing Ways
Anderson Bros. Mfg. Co., Rockford, Ill.
Bowsher Co., N. P., South Bend, Ind.

Balls, Bearing and Burnishing
Abbott Ball Co., Hartford, Conn.

Band Saw Machines, for Metal
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago
Porter-Cable Machine Co., Syracuse, N. Y.

Barrels, Tumbling
Abbott Ball Co., Hartford, Conn.
Scully-Jones & Co., 2012 W. 19th, Chicago

Belt Dressing
Garnet Co., Geo. H., Allentown, Pa.

Bench Legs, Steel
New Britain Mchs. Co., New Britain, Conn.
Standard Pressed Steel Co., Jenkintown, Pa.

Bending Machines, Hand and Power
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago
Handley & Whittemore Co., Beloit, Wis.
Lewthwaite Mchs. Co., T.H.417E. 81st., N.Y.
Lourie Hydraulic Co., Springfield, Ill.
Pedrick Tool & Machine Co., Philadelphia

Bending Rolls
Dreis & Krump Mfg. Co., 7422 Loomis Blvd., Chicago
Handley & Whittemore Co., Beloit, Wis.

Bolt and Nut Machinery
Economy Engineering Co., Willoughby, O.
Foote-Burt Co., Cleveland, O.

Boring Bars
Pedrick Tool & Machine Co., Philadelphia

Boring Bars, Cylinder
Pedrick Tool & Machine Co., Philadelphia

Boring, Drilling & Milling Machines
Barnes Co., W. F. & John, Rockford, Ill.
Landis Tool Co., Waynesboro, Pa.
Sommer & Adams Co., Cleveland, O.

Boring Machines, Horizontal
Avey Drilling Machine Co., Cincinnati
Morris Machine Tool Co., Cincinnati, O.
Pedrick Tool & Machine Co., Philadelphia

Boring Tools
Ribbe & Grey, La Porte, Ind.

Boring and Turning Machines, Vertical
Cincinnati Planer Co., Cincinnati, Ohio

Brakes, Steel, Hand and Power
Dreis & Krump Mfg. Co., 7422 Loomis Blvd., Chicago

Bulldozers, Hydraulic
Lourie Hydraulic Co., Springfield, Ill.

Burnishing Equipment, Ball
Abbott Ball Co., Elmwood, Conn.

Chucking Machines
New Britain Mchs. Co., New Britain, Conn.
Springfield Machine Tool Co., Springfield, O.

Chucks, Collet
Hardinge Brothers, Inc., 1770 Berteau Ave., Chicago

Chucks, Drill
Eastern Tube & Tool Co., Inc., 500 Johnson Ave., Brooklyn, N. Y.
Hartford Special Mchy. Co., Hartford, Conn.
Scully-Jones & Co., 2012 W. 19th, Chicago

Chucks, Drill and Tap
Scully-Jones & Co., 2012 W. 19th, Chicago

Chucks, Keyway Cutting
Scully-Jones & Co., Ry. Exch. Bldg., Chicago

Chucks, Magnetic
J. & H. Electric Co., Providence, R. I.

Clamps, Die
Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

Clutches, Friction
Edgemont Machine Co., Dayton, O.

Cold Saws
Burke Machine Too Co., Conneaut, Ohio

Collets
Hardinge Brothers, Inc., 1770 Berteau Ave., Chicago
Wade Tool Co., Waltham, Mass.

Contract Work Wanted
Burke Machine Tool Co., Conneaut, O.

Counterbores and Spot Facers
Glenzer Co., J. C., Detroit, Mich.

Couplings, Flexible
Nicholson Co., W. H., Wilkes-Barre, Pa.

Couplings, Shaft
Nicholson Co., W. H., Wilkes-Barre, Pa.

Cranes, Portable
Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Canton Foundry & Mchs. Co. Canton, Ohio

Crank Pin Turning Machine
Pedrick Tool & Machine Co., Philadelphia

Cutters, Keyseating
Davis Keyseater Co., Rochester, N. Y.
Scully-Jones & Co., 2012 W. 19th, Chicago

Cutters, Milling
Genesee Mfg. Co., Rochester, N. Y.

Cylinder Boring Machines, Portable
Pedrick Tool & Machine Co., Philadelphia

Demagnetizers
J. & H. Electric Co., Providence, R. I.

Dial Indicators
Federal Products Corp'n, Providence, R. I

Classified Finding Index

Dies
Sloan & Chace, Inc., Newark, N. J.

Die Sets
Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

Drill Racks
Peerless Machine Co., Racine, Wis.

Drill Tables and Vise
Modern Machine Tool Co., Jackson, Mich.

Drilling Machine Heads, Multiple
Buhr Machine Tool Co., Ann Arbor, Mich.
Gaterman Mfg. Co., Manitowoc, Wis.
United States Drill Head Co., Cincinnati

Drilling Machines, Bench
Avey Drilling Machine Co., Cincinnati
Barnes Co., W. F. & John, Rockford, Ill.
Burke Machine Tool Co., Conneaut, Ohio
Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Gaterman Mfg. Co., Manitowoc, Wis.
High Speed Hammer Co., Rochester, N. Y.
Merit Oil Equipment Co., Cleveland, O.
Sigourney Tool Co., Hartford, Conn.
Sloan & Chace, Inc., Newark, N. J.
Stecher Co., Chas., 2452 N. Greenview Ave., Chicago
Taylor & Fenn Co., Hartford, Conn.
Winterhoff Tool & Machine Co., Elkhart, Ind.

Drilling Machines, Flexible Shaft
Blax Flexible Shaft Co., 136 Liberty Street, New York

Drilling Machines, Horizontal
Barnes Co., W. F. & John, Rockford, Ill.
Gaterman Mfg. Co., Manitowoc, Wis.
Morris Machine Tool Co., Cincinnati, O.

Drilling Machines, Multiple Spindle
Avey Drilling Machine Co., Cincinnati
Foote-Burt Co., Cleveland, O.
Gaterman Mfg. Co., Manitowoc, Wis.
Kent Machine Co., Kent, Ohio.
Merit Oil Equipment Co., Cleveland, O.
Sigourney Tool Co., Hartford, Conn.
Taylor & Fenn Co., Hartford, Conn.

Drilling Machines, Portable Electric
Blax Flexible Shaft Co., 136 Liberty St., New York
Cincinnati Electrical Tool Co., Cincinnati, O.
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago
Mall Tool Co., 8389 S. Chicago Ave., Chicago
Standard Electrical Tool Co., Cincinnati, O.
Stow Flexible Shaft Co., Philadelphia, Pa.
Strand Co., N.A., 5001 N. Lincoln St., Chicago
Winterhoff Tool & Machine Co., Elkhart, Ind.

Drilling Machines, Post
Canedy-Otto Mfg. Co., Chicago Heights, Ill.

Drilling Machines, Radial
American Tool Works Co., Cincinnati, O.
Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Morris Machine Tool Co., Cincinnati, O.
Taylor & Fenn Co., Hartford, Conn.

Drilling Machines, Sensitive
Avey Drilling Machine Co., Cincinnati
Barnes Co., W. F. & John, Rockford, Ill.
Burke Machine Tool Co., Conneaut, Ohio
Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Foote-Burt Co., Cleveland, O.
Gaterman Mfg. Co., Manitowoc, Wis.
Leland-Gifford Co., Worcester, Mass.
Merit Oil Equipment Co., Cleveland, O.
Sigourney Tool Co., Hartford, Conn.
Stecher Co., Chas., 2452 N. Greenview Ave., Chicago
Taylor & Fenn Co., Hartford, Conn.
U. S. Machine Tool Co., Cincinnati, O.

Drilling Machines, Vertical
Avey Drilling Machine Co., Cincinnati
Barnes Co., W. F. & John, Rockford, Ill.
Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Foote-Burt Co., Cleveland, O.
Gaterman Mfg. Co., Manitowoc, Wis.
Leland-Gifford Co., Worcester, Mass.
Merit Oil Equipment Co., Cleveland, O.
Sigourney Tool Co., Hartford, Conn.
Standard Electrical Tool Co., Cincinnati, O.
Stecher Co., Chas., 2452 N. Greenview Ave., Chicago
Taylor & Fenn Co., Hartford, Conn.

Dust Handling Equipment
Knickerbocker Co., Jackson, Mich.

Emery Wheel Dressers and Cutters
Ross Manufacturing Co., Cleveland, O.
Taylor & Fenn Co., Hartford, Conn.
Western Tool & Mfg. Co., Springfield, O.

Etching Machines, Electric
Brewster Co., Wm., Inc., 50 Church St., New York

Feeders, Oil and Soda Water
New Britain Machine Co., New Britain, Conn.

Filing Room Equipment
Wardwell Mfg. Co., Cleveland, O.

Forges
Canedy-Otto Mfg. Co., Chicago Heights, Ill.

Forgings, Hollow Bored
American Hollow Boring Co., Erie, Pa.

Furniture, Machine Shop
New Britain Machine Co., New Britain, Conn.
Standard Pressed Steel Co., Jenkintown, Pa.
Western Tool & Mfg. Co., Springfield, O.

Gauges, Dial
Federal Products Corp'n, Providence, R. I.

Gauges, Piston and Piston Ring
Federal Products Corp'n, Providence, R. I.

Gauges, Taper
Hartford Special Mchy. Co., Hartford, Conn.

Gauges, Thread
Federal Products Corp'n, Providence, R. I.

Gear Cutting Machines
Sloan & Chace, Inc., Newark, N. J.

Gears
Boston Gear Works Sales Company, Norfolk Downs, Mass.
Massachusetts Gear & T. Co., Woburn, Mass.

Grinding Machines, Belt
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Peerless Surfacing Machine Co., Troy, N. Y.
Walts Sales Corp., 90 Warren St., New York

Grinding Machines, Bench
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Standard Electrical Tool Co., Cincinnati, O.

Classified Finding Index

Grinding Machines, Cutter, Reamer and Tool
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Jarecki Mchc. & T. Co., Grand Rapids, Mich.
Landis Tool Co., Waynesboro, Pa.
LeBlond Mch. Tool Co., R. K., Cincinnati, O.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Cylindrical
Jarecki Mchc. & T. Co., Grand Rapids, Mich.
Landis Tool Co., Waynesboro, Pa.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Die
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Jarecki Mchc. & T. Co., Grand Rapids, Mich.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Disc
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Gardner Machine Co., Beloit, Wis.
Porter Cable Machine Co., Syracuse, N. Y.

Grinding Machines, Drill
Gallmeyer & Livingston Co., Grand Rapids, Mich.
La Salle Tool Co., Ottawa, Ill.

Grinding Machines, Electric
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago
North Side Tool Co., Dayton, Ohio

Grinding Machines, Face
Taylor & Fenn Co., Hartford, Conn.

Grinding Machines, Flexible Shaft
Blax Flexible Shaft Co., 136 Liberty street, New York
Keller Mch. Eng. Corp., 58A Washington St., Brooklyn, N. Y.

Grinding Machines, Internal
Landis Tool Co., Waynesboro, Pa.
Mall Tool Co., 8389 S. Chicago Ave., Chgo.
Taylor & Fenn Co., Hartford, Conn.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Portable Electric
Blax Flexible Shaft Co., 136 Liberty St., New York
Cincinnati Electrical Tool Co., Cincinnati, O.
Mall Tool Co., 8389 S. Chicago Ave., Chgo.
Porter-Cable Machine Co., Syracuse, N. Y.
Standard Electrical Tool Co., Cincinnati, O.
Stow Flexible Shaft Co., Philadelphia, Pa.
Strand Co., N.A., 5001 N. Lincoln St., Chgo

Grinding Machines, Snagging
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Jarecki Mchc. & T. Co., Grand Rapids, Mich.

Grinding Machines, Surface
Gallmeyer & Livingston Co., Grand Rapids, Mich.
La Salle Tool Co., Ottawa, Ill.
Thompson Grinder Co., Springfield, Ohio

Grinding Machines, Tap
Gallmeyer & Livingston Co., Grand Rapids, Mich.

Grinding Machines, Tool
Kent Machine Co., Kent, Ohio.
Standard Electrical Tool Co., Cincinnati, O.
Taylor & Fenn Co., Hartford, Conn.

Grinding Machines, Universal
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Landis Tool Co., Waynesboro, Pa.
Thompson Grinder Co., Springfield, Ohio

Hack Saw Blades
Peerless Machine Co., Racine, Wis.

Hack Saw Machines
Armstrong-Blum Mfg. Co., 341 N. Francisco Av., Chicago
Peerless Machine Co., Racine, Wis.
Racine Tool & Machine Co., Racine, Wis.

Hammers, Air
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

Hammers, Riveting
High Speed Hammer Co., Rochester, N. Y.
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

High Speed Steel, Drills, Cutters
Bernstein, Geo. M., 549 W. Washington Blvd., Chicago

Hoists, Electric
Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

Hoists, Portable
Canton Foundry & Machine Co., Canton, Ohio

Hydraulic Machinery
Lourie Hydraulic Co., Springfield, Ill.

Jigs and Fixtures
Hartford Special Mchy. Co., Hartford, Conn.
Sloan & Chace, Inc., Newark, N. J.

Keyseating Machines
Burr & Son, John T., Brooklyn, N. Y.
Chattanooga Mchy. Co., Chattanooga, Tenn.
Davis Keyseater Co., Rochester, N. Y.
National Machine Tool Co., Cincinnati

Lathe Accessories and Attachments
Cisco Machine Tool Co., Cincinnati, O.

Lathes, Bench
Hardinge Brothers, Inc., 1770 Berteau Ave., Chicago
Monarch Machine Tool Co., Sidney, O.

Lathes, Engine
American Tool Works Co., Cincinnati, O.
Barnes Co., W. F. & John, Rockford, Ill.
Carroll Mchc. Tool Co., A. V., Cincinnati, O.
Cisco Machine Tool Co., Cincinnati, O.
Hardinge Brothers, Inc., 1770 Berteau Ave., Chicago
LeBlond Mch. Tool Co., R. K., Cincinnati, O.
Monarch Machine Tool Co., Sidney, O.
Morris Machine Tool Co., Cincinnati, O.
Porter-Cable Machine Co., Syracuse, N. Y.
Springfield Machine Tool Co., Springfield, O.

Lathes, Extension Bed Gap
Rahn-Larmon Co., Cincinnati, O.

Lathes, Foot Power
Barnes Co., W. F. & John, Rockford, Ill.

Lathes, Gap
Carroll Mchc. Tool Co., A. V., Cincinnati, O.

Lathes, Manufacturing
Sloan & Chace, Inc., Newark, N. J.

Lathes, Precision
Sloan & Chace, Inc., Newark, N. J.
Wade Tool Co., Waltham, Mass.

Lathes, Short Bed
Monarch Machine Tool Co., Sidney, O.
Porter-Cable Machine Co., Syracuse, N. Y.

Classified Finding Index

Lathes, Turret
Monarch Machine Tool Co., Sidney, O.

Mandrels, Expanding
Nicholson & Co., W. H., Wilkes-Barre, Pa.
Western Tool & Mfg. Co., Springfield, O.

Mandrels, Solid
Nicholson & Co., W. H., Wilkes-Barre, Pa.

Milling Attachments
Burke Machine Tool Co., Conneaut, Ohio
Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R.K., Cincinnati, O.
Porter-Cable Machine Co., Syracuse, N. Y.
Taylor & Fenn Co., Hartford, Conn.

Milling Machines, Bench
Burke Machine Tool Co., Conneaut, Ohio
Sloan & Chace, Inc., Newark, N. J.

Milling Machines, Hand
Burke Machine Tool Co., Conneaut, Ohio
U. S. Machine Tool Co., Cincinnati, O.

Milling Machines, Manufacturing
Kearney & Trecker Corp., Milwaukee, Wis.

Milling Machines, Plain
Burke Machine Tool Co., Conneaut, Ohio
Gallmeyer & Livingston Co., Grand Rapids, Mich.
Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R.K., Cincinnati, O.

Milling Machines, Portable
Pedrick Tool & Machine Co., Philadelphia

Milling Machines, Spline
Taylor & Fenn Co., Hartford, Conn.

Milling Machines, Universal
Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R.K., Cincinnati, O.

Milling Machines, Vertical
Burke Machine Tool Co., Conneaut, Ohio
Kearney & Trecker Corp., Milwaukee, Wis.
LeBlond Mch. Tool Co., R.K., Cincinnati, O.
Taylor & Fenn Co., Hartford, Conn.

Mills, Adjustable Hollow
Genesee Mfg. Co., Rochester, N. Y.

Motors, Electric
Fairbanks, Morse & Co., Chicago
Reliance Electric & Eng. Co., Cleveland

Nut Setters, Flexible Shaft
Blax Flexible Shaft Co., 156 Liberty Street, New York

Oil Cups
Tucker, W. W. & C.F., Inc., Hartford, Conn.

Oil Extractors
Tolhurst Machine Works, Troy, N. Y.

Oil Hole Covers
Tucker, W. W. & C.F., Inc., Hartford, Conn.

Pattern Shop Machinery
Towsley Mfg. Co., John T., Cincinnati

Pinion Cutting Machines
Sloan & Chace, Inc., Newark, N. J.

Pins, Leader And Dowel
Danly Machine Specialties, Inc., 4913 Lincoln Ave., Chicago

Pipe Bending Machines
Pedrick Tool & Machine Co., Philadelphia

Pipe Cutting and Threading Machines
Chicago Pipethread Co., Racine, Wis.

Planing Machines
Cincinnati Planer Co., Cincinnati, O.
Cleveland Planer Co., Cleveland, O.

Planers, Valve Seat, Portable
Pedrick Tool & Machine Co., Philadelphia

Pointers, Semi-Automatic
Kent Machine Co., Kent, Ohio.

Polishing and Buffing Machines
Cincinnati Electrical Tool Co., Cincinnati, O.
Chico Machine Tool Co., Cincinnati, O.
Independant Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago
Mail Tool Co., 8389 S. Chicago Ave., Chicago
New Britain Machine Co., New Britain, Conn.
North Side Tool Co., Dayton, Ohio
Standard Electrical Tool Co., Cincinnati, O.

Presses, Arbor
Atlas Press Co., Kalamazoo, Mich.
Barnes Co., W. F. & John, Rockford, Ill.
Lourie Hydraulic Co., Springfield, Ill.
Nicholson & Co., W. H., Wilkes-Barre, Pa

Presses, Broaching
Lourie Hydraulic Co., Springfield, Ill.

Presses, Drawing
Lourie Hydraulic Co., Springfield, Ill.

Presses, Flanging
Lourie Hydraulic Co., Springfield, Ill.

Presses, Foot
Rockford Iron Works, Rockford, Ill.
Taylor & Fenn Co., Hartford, Conn.

Presses, Forcing
Lourie Hydraulic Co., Springfield, Ill.

Presses, Forming
Dreis & Krump Mfg. Co., 7422 Loomis Blvd., Chicago
Lourie Hydraulic Co., Springfield, Ill.

Presses, Power
Hendley & Whittemore Co., Beloit, Wis.
Lourie Hydraulic Co., Springfield, Ill.
Rockford Iron Works, Rockford, Ill.

Presses, Punch
Lewthwaite Mche. Co., T.H., 417E. 31st., N.Y.
Rockford Iron Works, Rockford, Ill.

Presses, Screw
Barnes Co., W. F. & John, Rockford, Ill.
Jarecki Mche. & T. Co., Grand Rapids, Mich.
Towsley Mfg. Co., John T., Cincinnati

Presses, Wheel
Lourie Hydraulic Co., Springfield, Ill.

Pulley Machinery
Avey Drilling Machine Co., Cincinnati

Classified Finding Index

Pumps, Coolant
Fulflo Specialties Co., Blanchester, O.
Oberdorfer Brass Co., M. L., East Syracuse, N. Y.

Pumps, Exhaust
Petrick Bros., 2226 Belmont Ave., Chicago

Pumps, Hydraulic
Lourie Hydraulic Co., Springfield, Ill.

Pumps, Lubricant
Rothman Machinery Co., Cincinnati, O.

Punch Press Feeds
Rockford Iron Works, Rockford, Ill.

Punch, Shear and Bender, Hand
Armstrong-Blum Mfg. Co., 341 N. Francisco Ave., Chicago

Punches, Hand
Armstrong-Blum Mfg. Co., 341 N. Francisco Av., Chicago
Hendley & Whittemore Co., Beloit, Wis.
Lewthwaite Mchs. Co., T. H., 417 E. 31st St., New York
Whitney Metal Tool Co., Rockford, Ill.

Punches, Power
Hendley & Whittemore Co., Beloit, Wis.

Punches and Dies
Hendley & Whittemore Co., Beloit, Wis.
Lewthwaite Mchs. Co., T. H., 417 E. 31st., N. Y.
Rockford Iron Works, Rockford, Ill.

Racks, Bar Stock
New Britain Machine Co., New Britain, Conn.
Yohe Supply Co., Wm. S., Canton, O.

Reamers, Adjustable
Schellenbach-Hunt Tool Co., Cincinnati, O.

Reamer Holders
Nicholson & Co., W. H., Wilkesbarre, Pa.

Reels, Extension
Cincinnati Specialty Mfg. Co., Cincinnati, O.

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High Speed Hammer Co., Rochester, N. Y.

Rod Cutters
Armstrong-Blum Mfg. Co., 341 N. Francisco Av., Chicago
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Lewthwaite Mchs. Co., T. H., 417 E. 31st., N. Y.
Tucker, W. W. & C. F., Inc., Hartford, Conn.

Saw Sharpening Machines
Wardwell Mfg. Co., Cleveland, O.

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Anderson Brothers Mfg. Co., Rockford, Ill.

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Independent Pneumatic Tool Co., 600 W. Jackson Blvd., Chicago

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Stax Flexible Shaft Co., 136 Liberty Street, New York

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Reynolds Machine Co., Massillon, Ohio

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Mall Tool Co., 8329 S. Chicago Ave., Chgo.
Stow Flexible Shaft Co., Philadelphia, Pa.
Strand Co., N. A., 5001 N. Lincoln St., Chgo.

Shafts, Steel
American Hollow Boring Co., Erie, Pa.

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American Tool Works Co., Cincinnati, O.
Osborne & Sexton Machy. Co., Columbus, O.
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Smith & Mills Co., Cincinnati
Springfield Machine Tool Co., Springfield, O.

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Dreis & Krump Mfg. Co., 7422 Loomis Blvd., Chicago
Hendley & Whittemore Co., Beloit, Wis.
Lewthwaite Machine Co., T. H., 417 E. 31st St., New York
Oliver Mfg. Co., W. W., Buffalo, N. Y.
Tucker, W. W. & C. F., Inc., Hartford, Conn.
Whitney Metal Tool Co., Rockford, Ill.

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Leland-Gifford Co., Worcester, Mass.
Sloan & Chace, Inc., Newark, N. J.
Whitney Metal Tool Co., Rockford, Ill.

Taps, Threading, Collapsing
Gaterman Mfg. Co., Manitowoc, Wis.

Thread Dials
Colvin, J. M., Yonkers, N. Y.

Thread Milling Attachments
Cisco Machine Tool Co., Cincinnati, O.

Classified Finding Index

Threading Machines
Kent Machine Co., Kent, Ohio.

Threading Tools
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

Tool Holders
Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago
Western Tool & Mfg. Co., Springfield, O.

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Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

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Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

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Armstrong Bros. Tool Co., 308 N. Francisco Av., Chicago

Tools, Spot Facing
Genesee Mfg. Co., Rochester, N. Y.

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Canton Foundry & Machine Co., Canton, O.

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American Tool Works, Inc., Hartford, Conn.
Burgess Mfg. Co., Inc., Torrington, Conn.
Boston Gear Works Sales Company, Norfolk Downs, Mass.

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Foster Machinery Co., Cleveland, O.
Haetten & Co., J. E., Inc., 50 Church St., New York
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Hill, Clarke & Co., 649 W. Washington Blvd., Chicago
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Kinney Co., E. A., Cincinnati, O.
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Lucas & Son, J. L., Inc., Bridgeport, Conn.

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Western Tool & Mfg. Co., Springfield, O.

Vises, Milling Machine
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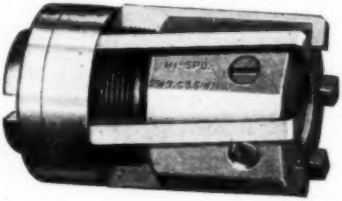

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Used and Rebuilt Machinery Section

Lists of Used and Rebuilt Machinery, either For Sale, Wanted or For Exchange, set in uniform style, will be published in this Section at the rate of **50 cents a line**, across the page, each issue, plus **$2.50** for name and address. Minimum charge, **$5.00.** No display permitted.

Write directly to those offering the machines for sale for prices and full descriptions. If what you seek is not listed, use the blank enclosed to make known your wants to the publisher, who will pass them along to all Machine Tool Blue Book advertisers.

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200 lb. air hammer. | 250 lb. Beaudry Champion hammer.
Both in excellent condition and arranged for motor drive.

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Grinders, tool post, U. S. & Hisey.
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Lathe, 16"x 7' Lehmann, q. c. g.
Lathes, 16"x6' Monarch, q. c. g.
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Riveter, ⅜" Adt.
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21"x10' LeBlond, q. c. g., t. a.
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18"x 8' Sidney, quick change grs.
18"x8' American, q. c. g., taper, relieving attachment.
14"x 6' Bradford taper, draw collets, relieving attachment, q. c. g.
16"x 8' Flather, q. c. g.
16"x8' Hendey, q. c. g., taper.
16"x6' Seneca Falls, q. c. g., (2).
16"x 8' Pratt & Whitney, taper.
15"x 6' Carroll-Jamieson.
14"x6' Bradford, q.c.g., draw, collets.
14"x6' LeBlond, quick change gear.
14"x6' Rockford, taper, q. c. g.
14"x 6' Hendey, draw attachment.

MILLERS.

No. 2 Brown & Sharpe universal.
No. 3 B. & S. univ., vert. attach.
No. 3 B. & S. plain.
No. 2½ Rockford univ., vert. attach.
No. 4 Ohio rapid production.
No. 2A Kearney & Trecker, sgl. pul.
No. 3 Kempsmith plain.
No. 4 Cincinnati vertical.
Model B Becker vertical.
No. 3 Becker vertical.
30" Bullard, 32" Colburn.
No. 5 C Becker, vertical incl. rot. table.

SHAPERS.

24" Gould & Eberhardt, grd. crank.
24" Hamilton heavy, grd. crank.
20" Hendey, single pulley, b. g.
No. 16 Hendey, b. g.
24" Steptoe, geared crank.
24" Rockford, geared crank.
20" Ohio, geared crank.
16" Gould & Eberhardt, grd. crank.

RADIALS AND DRILL PRESSES.

5-spindle Henry & Wright, hi-sp.
4-spindle Leland Gifford, ⅞" cap.
6-spindle Leland Gifford, ⅝" cap.
4-spindle Avey, ⅝" cap.
2-spindle Avey, power feed, ¾" cap.
4-spindle Leland Gifford, ⅝" cap.
5' Bickford.
36" American.
24" Becker Bros., (3).
6-spindle Sipp, ⅝" capacity.
5-spindle Henry & Wright, ⅝" cap.
2-spindle Henry & Wright, 1" cap.
3-spindle Leland Gifford bench.
1-spindle Sipp with comp. table, (2).
30" Superior, Aurora sliding head.
28" Aurora sliding head.
26" & 24" Superior, Aurora slid. hd.
Knight drilling & milling machine.

GRINDERS.

Bryant internal and chucking, (4).
No. 2 Norton universal.
No. 3 Oakley universal.
Cincinnati univ., 4"x57" table.
No. 1 LeBlond universal.
No. 2 LaSalle universal.
12"x72" Brown & Sharpe univ.
No. 13 B. & S. universal.
8"x32" Norton cylindrical.
12"x60" Landis cylindrical.
6"x18" Landis self-contained.
10"x30" Landis cylindrical No. 1½.
No. 65 Heald cylinder.
8" Heald ring grinder, mag. chuck.
40" Besly ball bearing.
No. 4 Gardner ball bearing.
No. 120 Gardner ball bearing.

SCREW MACHINES AND TURRET LATHES.

Jones & Lamson, single spindle.
Nos. 2 & 4 Warner & S. pl. & g.
No. 0 G. Brown & Sharpe, auto.
No.6 Warner & Swasey, b.g., fr.hd
No. 6 Foster, power long. & cross.
1" & 1¼" cap. Acme, b. g., frict. h.
Nos. 0, 1, 2, 3 Foster and B. & O.
16"—18" Fox turret lathes, fric. hd.
No. 4 Brown & S., b. g., fric. hd.
Nos. 00, 0 & 2 B. & S. automatics.

PUNCH PRESSES AND SHEARS.

No. 33P Toledo.
No. 51 Toledo, 6½" stroke.
No. 71 Toledo double crank.
8' Toledo power square shear.
No. 5 Toledo geared.
Emco bench type, (10).
⅜" capacity slitting shear.

MISCELLANEOUS.

Balancing machine, motor attached.
Bolt cutter, 1" Landis.
Bolt cutter, 1½" Landis.
Broaching mch., Nos. 1, 2 & 3 LaPointe
Die slotter, Garvin.
Gear cutter, No. 13 B & S., bevel & s.
Gear cutters, Waltham auto., (4).
Keyseater, No. 2 Davis.

FOR SALE BY

The Akron Equipment Company, - - Akron, Ohio

Automatic, 4-spindle, 1¼ capacity Acme, serial 9201 ..... $ 475.
Engine lathe, Pitchburg, 13"x6', not screw cutting, chuck ..... 55.
Engine lathe, Blaisdell, 14"x6', c. s., c. r., taper att., chuck ..... 95.
Engine lathe, Fish, 39"x23', raising blocks to 46", c. s., c. r., and extra rest at rear, chuck jaws ..... 1050.
Threading machine, 2-spindle, 1" capacity, National Acme ..... 125.

FOR SALE BY

The Reeve-Fritts Co., 558-560 W. Washington Blvd., Chicago, Ill.

Air compressor, No. 4 Curtis.
Drill head, 4-spdl. adj., No. 3 taper.
Drill, 21" C. & O., p. f.
Drill, 24" Milwaukee, b. g., p. f.
Engraving mche., No. 1-D Gorton.
Lathe No. 2 Stark precision.
Lathe, 9"x14" Porter-Cable prod.
Lathe, 9"x18" Porter-Cable prod.
Lathe, 16x8 Flather, q. c. g.
Miller, No. 1 Bickett, power feed.
Miller, No. 1 Bickett vertical.
Miller, Oesterlein 34"x10"x20" plain.
Planer, 9"x7"x24" Federal.
Press, No. 3 R. & K., o. b. i.
Press, No. 3 Rockford, o. b. i.
Press, No. 3-A R. & K., o. b. i.
Pipe machine, 2" Jarecki.
Pipe machine, 12" Forbes.
Routing mch., 12" Leland, high spd.
Tapping mach. ⅜" Rickert & S. horiz.

FOR SALE BY

Fitzsimmons & Cole Machinery Company

1208 House Building, - - - Pittsburgh, Pa.

Air compressor, Ingersoll 10x10, 150'.
Blower, No. 6 Buffalo, cupola, b. d.
Bolt cutters, 1½", 2", 2½", 4" Landis.
Boring mill, 42" Bullard, b. d.
Boring mill, 76" Bullard, b. d.
Boring mill, 84" Pond, 2 hds., b. d.
Bulldozer, No. 25 W. & W., m. d.
Drill, radial, 6' Prentice, s. p. d.
Drill, 14" Hamilton upright, b. d.
Drill, 24" Cinti. upright, sliding hd.
Flanger, McCabe, ⅞" capacity.
Gear planer, 24" Gleason, bevel, b. d.
Grinder, dbl. emery, wheels 18" dia.
Grinder, 16"x48" Landis, crankshaft.
Grinder, 16"x68" Landis, crankshaft.
Grinder, No. 16 Blanchard.
Hammer, 50 lb. Mayer, upright.
Hammer, 200 lb. Beaudry, upright.
Hammers, 2-B, 3-B, 4-B & 4-N Nazel.
Header, 2" National rivet.
Keyseater, No. 0 Mitts & Merrill.
Keyseater, No. 2 Mitts & Merrill.
Lathe, 16"x6' American, q. c. g., t.a.
Lathe, axle, Bridgeford, dbl. hd., m.d.
Lathe, car wheel, 42" Niles, d. e., m d.
Miller, plain, No. 3-B Brown & S.
Miller, plain, No. 4 Cincinnati.
Miller, plain, No. 5 B. & S., b. d.
Miller, slab, 24x30x14' Ingersoll.
Pipe machine, 12" Jarecki, b. d.
Planer, 36"x36"x10' Cincinnati, 2 hds.
Planer, 48"x48"x16' Pond, 4 hds., b.d.
Planer, 96"x96"x20' Pond, 4 hds., m.d.
Planer, o. s., Cleveland, 36"x36"x16'.
Planer, o. s., Cleveland, 48"x48"x12'.
Planer, o. s. Cleveland 48"x48"x20'.
Planer, rotary, No. 2 Cleve., 48" hd.
Press, baling hyd., No. 23-P Logemann
Press, Ferracute P-1, 1½" stroke.
Press, No. 5-A Toledo, o. b. i., 3" str.
Press, No. 37½ Bliss, s. s., 6" stroke.
Press, toggle, No. 1½ Bliss.
Press, wheel, 150-ton Caldwell.
Press, forging, 500-ton United, hyd.
Punch, hor., Cleveland, 1" thru 1".
Punch, multiple, No. 5 H. & J., 10'.
Punch & s., 30" throat, 1½" thru 1".
Punch & s., Pels comb., 1½" thru 1".
Riveter, Hanna, 18" thrt., 15" gap.
Riveter, Allen, 66" throat, 15" gap.
Riveter, stake, No. 6 Whiting, 48" thrt.
Rolls, angle bending, 6x6x½" K. & R.
Rolls, bending, 48"x¼".
Rolls, bending, 8'x1" N.-B.-P.
Rolls, bending, 10'x½" H. & J.
Sand blast, MacLeod, 36"x36".
Saw, cold, 20" Higley.
Shaper, 20" Cincinnati, b. g., b. d.
Shaper, 24" Gould & Eberhardt, b.d.
Shear, angle, H. & J., cap. 6"x6"x1".
Shear, alligator, United, cap. 1½" sq.
Shear, bevel, Lenox ⅝".
Shear, guil., No. 3 H. & J., cap. 2½" sq.
Shear, rot., No. 110½ Bliss, 3/16" cap.
Shear, rotary, No. 6 Quickwork, ⅜".
Shear, 10'x¼" Cincinnati, m. d.
Shear, 7'x¼" Canton, b. d.
Shear, 36"x3/16" Cincinnati, m. d.
Straightener, bar, No. 3 K. & R.
Straightener, beam, No. 4 H. & J.
Straightening rolls, 42" cap. 12 ga.
Testing machine, 100,000 lbs. Riehle.

FOR SALE BY

Herman L. Winterer, 943-53 N. Front St., Philadelphia, Pa.

LATHES.

43"x17' 4½" Bement-Miles.
37½"x14' Johnson d. b. g., q. c. f., t. a.
32"x12' Pittsburgh, heavy duty, q.c.g.
32"x15' American, cone type.
27"x12' Bullard.
26"x11' Wickes, q. c. g.
26"x10' 6" Walcott, q. c., d. b. g.
26"x10' Niles, q. c. g.
24"x14' Porter.
21½"x8' LeBlond.
20"x8'6" Walcott, d. b. g., c. g.
19"x10' Draper, patent head.
18" x 7' Chard, d. b. g., semi q. c. g.
18"x6' to 8' lathes. (6).
16"x10' Whitcomb-B., semi q. c.
16"x 6' American, q.c., pan bed, t.a.
15"x 8' Sidney, q. c., d. b. g., t. a.
14"x 6' Springfield, latest type, tool room type, t. a.

TURRET LATHES.

3½x28" Pond, triangle.
3x36" Pratt & Whitney, hollow hex.
20x7' Bridgeport, 2½", h. s.
19"x7' Fay & Scott, back grd.
No. 22½ Garvin Monitor.
14"x 6' Warner & Swasey.
No. 3 Foster sc. machines 1-5/16" wire feed, (2).
1½"x9" Cincinnati-Acme, wire fd., (2).
No. 4 B. & S., bar feed, all auto. fds.
No. 2 Smurr & Kamen, wire fd., (5).

DRILL PRESSES.

42" Gang radial, s. p. speed box.
40" Barnes horizontal radials, (2).
28" Rockford, tapping attachment.
26" Aurora, sliding head.
34" Barnes, s. h., grd. fd., comp. tbl.
24" Foote-Burt heavy duty.
21" Aurora, b. g., p. f.
No. 1½ Knight combined milling and drilling machine.

MILLING MACHINES.

No. 5 Cincinnati, table 9½x50½".
No. 5 Brown & Sharpe vertical.
No. 3-B B. & S. plain, sgl. pulley.
No. 3 Hendey, q. c. g.
No. 1 Van Norman hand miller.
No. 2 Rockford univ., heavy patt.
No. 3 Becker-Brainard, new model, q. c. g., vertical attachment.
No. 5-C Becker vert., rotary table.
No. 1 Rockford hand, power feed.

PLANERS AND SHAPERS.

48"x37"x9' Sellers, 2 heads.
48"x48"x12' Gray, 2 heads.
42"x36"x12' Cincinnati, 4 heads.
42"x36"x14' Cincinnati, 4 heads.
36"x36"x12' W. & P., 3 hds., m. d.
28" Woodward & P., crk., gear box.
49" Morton draw-cut shaper.
15" Lodge & Davis shaper.

BORING MILLS.

24" Bullard, rapid production.
Boring mill, car wheel, 60" Newton.
42" Bullard, 2 swivel heads, (2).
Boring, drilling and milling machine, 17½' Bement Miles horiz.
Boring mill, No. 1 Sellers hor., 2½" bar.

PIPE AND BOLT MACHINES.

1½" National, bolt, m. d.
4" & 8" Eaton, Cole & B., pipe.
4" Armstrong, No. 00 pipe machine.

MISCELLANEOUS.

Centering mche., 5" Whiton, dbl. sp.
Cold saw, No. 6 Nutter & Barnes.
Elec. hoist, 1-ton Link Belt, 2 ph. a.c.
Electric hoist, 1-ton Shepard, 220 v., d. c. (2).
Filing machine, Oliver on column.
Grinder, 12½"x5' Landis universal.
Grinder, disc, No. 17 Besly.
Grinder, disc, No. 6 Gardner 26".
Grinders, several dbl. end electric.
Hammers, 15, 25 & 40 lbs. Bradley helve.
Hammer, 60 lb. Hotchkiss.
Hammer, 50 lb. Little Giant, belt dr.
Hammers, 60 lb. Bellefonte upright; 2.
Keyseater, Morton 18" stroke.
Keyseater, No. 4 Cattin, m. d.
Tire press, hyd., 60-ton Defiance.
Punch or gate shears, 72" Cleveland multiple, 15" throat.
Punch presses, all sizes, (55).
Punch, No. 2 H. & J., 15" th., arch. jaw, 1½" in 1".
Punch, horiz., L. V., grd., cap. 1".
Punch & shear, No. 2 H. & J., dbl. end, 20" th. cap., 1½" in 1".
Punch & shear, No. 4 Long & A., double end, 24" throats.
Punch & shear, Oeking combination, cast steel frame, cap. 1½" in 13/16".
Riveter, air, 6' gap Allen, cap. 1½".
Riveter, air, 6' Allen, cap. ⅝".
Riveter, stake, No. 6 Whiting, 60" th.
Shr., No. 230 Niagara pwr, sq., m.d.
Shear, squaring, 48" Ohl, ⅜" cap.
Slotter, 14" Niles.
Slotter, 38" Rhodes vertical.
Tooth rounding machine, S. & S.
Wire straightener, No. 1 Shuster.

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Hammer, drop, 200 lb. Bliss, 4-poppet, with flanged pulley and shaft.
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Presses, Bliss No. 52 straight side, 1½" stroke, f. w. type, (2).
Press, Bliss, No. 1½ toggle drawing, draw and lift out 4", wgh. 9000 lbs.
Presses, Walsh, Nos. 3 and 5½ open back inclinables, standard.
Press, Walsh double crank, 36" between uprights, f. w., 3" stroke, 12000 lbs.
Press, R. & K. No. 8, straight side geared, 4" stroke, wgh. 24,000 lbs.
Seamers, McDonald No. 12 automatic, double, with attachments, new, (2).
Slitter, Bliss No. 225 gang, with cutters and grinder.
Thread rolling machine, Bliss No. 123, for heavy material, wgt. 3700 lbs.
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Guaranteed NEW MACHINES in original crates at prices below list:

Automatic, 2½" Gridley, single spdl.
Pipe machine, No. 70 Forbes.

Exceptional values in USED TOOLS:

Automatic, 1½" model A., Cleveland.
Drill press, 4-spindle Barr sensitive.
Drill press, 22" Prentice, rebuilt.
Drill presses, 2-spindle Woodward & Rogers sensitive.
Grinder, 24" Safety Emery Wheel Co. snag grinder.
Grinder No. 33 abrasive.
Lathe, 12"x 5' Reed.
Lathe, 16"x 8' American, geared head, rebuilt.
Lathe, 16"x10' American.
Lathe, 20"x12' Reed.
Lathe, 8x60 Fitchburg lo-swing.
Miller, 3½ Bilton automatic, (2).
Screw mchs., No. 4 W. & S., g.f.h., (3).
Straightener, No. 2½ Corey.
Miller, No. 5 Becker vertical.
Planer, 30"x30"x16' L. W. Pond.
Planer, 60"x60"x22' Niles.
Radial, 5' Pond.
Thread miller, No. 12 Lees Bradner.
Tilted turret, No. 6 Wood.
Turret lathes, No. 4 Foster (2).
Turret lathe, No. 2 Warner & S., hollow hex.
Turret lathe, No. 3 Cincinnati Acme.
Turret lathe, 2½x26 Pratt & Whitney.
Turret lathes, 3x36 Jones & L. (3).
Turret lathe, 2x24 Jones & Lamson.
Turret lathe, 21" Gisholt.
Turret lathe, 24" Steinle.

FOR SALE BY

The Randle Machinery Co., 1733 Powers St., Cincinnati, Ohio

Arbor pr., Nos. 3½ and 7 Greenerd.
Automatic, 4-spindle, 1½" capacity.
Bolt cutter, 1" Acme.
Bolt cutter, 1½" Bignall & Keeler.
Bolt cutter, 2" Acme.
Boring mill, 36" King.
Boring mill, 42" King.
Drill, 20" Rockford upright, b. g., t.a.
Drill, 24" Cincinnati upright, b. g.
Drill, 6' Niles universal, m. d.
Drill, 3' Carlton, m. d. or b. d., g. b.
Drill, 4' Cincinnati-Bickford, s. p. d. thru g. b.
Lathe, 16"x 6' New Monarch, q. c.
Lathe, 16"x 6' LeBlond, l. c., t. a.
Lathe, 18"x 6' loose change, rebuilt.
Lathe, 18"x10' LeBlond, q.c., 8x14 gap.
Lathe, 24"x12' LeBlond, l. c.
Lathe, 24"x12' LeBlond, q. c.
Lathe, 24"x12' Bradford, q. c.
Lathe, 24"x14' Lodge-Shipley, q. c.
Lathe, 24"x14' Schumacher - Boye, loose change.
Lathe, 25"x12' National, semi-q. c.
Milling machine, No. 4G LeBlond, belt feeds.
Milling machine, No. 4G LeBlond, plain, m. d.
Planer, 62"x62"x14' Cinc., 4 hds, m.d.
Planer, 36"x38"x16' Gray, 4 hds. b. d.
Shaper, 16" Cincinnati, b. g.
Shaper, 20" Cincinnati, b. g.
Shaper, 20" Ohio, b. g.
Shaper, 16-28", slighly used Queen City b. g.
Shapers, 16-24" Steptoe, back geared, (new and used).
Turret lathe, 2½"x24" J. & L., chucking type.
Turret lathe, 3x36 J. & L., chucking type.
Turret lathe, 28" & 34" Gisholt, m. d.

Above only a partial list. Send us your specifications if you don't see listed what you want.

USED AND REBUILT MACHINERY

FOR SALE BY

Marr-Galbreath Machinery Co., 58 Water St., Pittsburgh, Pa.

Air compressors, Curtis, 6"x8", 80 cu. ft	$ 150.
Air compressors, Curtis 7"x7", base for motor	375.
Armature banding lathe, 25"x8'	100.
Bolt cutter, 2" Landis, single head, dies	450.
Bolt cutter. 1½" Morgan, double head, dies	350.
Bolt cutter, 1½" Acme, triple head	450.
Bolt cutter, 1" Acme "B" single, dies, near new	225.
Beam punch, single, capacity 2 holes 1"x1", 13" throat	600.
Boring mill, 24" Bullard, side head, m. s.	
Boring mill, 42" Bullard, 2 heads, belt	700.
Boring mill, 16' to 36' Niles, extension head motor, 220 volts, d. c.	25,000.
Bulldozer, No. 28 W.-W., for motor drive, new.	
Drill grinder, "WPEL" Wilmarth-Morman, mtr. 3-ph., 60 cy., 220 v.	200.
Engraving machine No. 1-A Gorton, near new	350.
Forging machine, 3" Acme, steel bed, for motor	3800.
Gear cutter, No. 6 Brown & Sharpe, 72"x13"	3000.
Gear hobber, No. 4 Farwell, with change gears	1200.
Grinder, No. 18-D Rowbottom, double opposed head, b. b	500.
Grinder, No. 60 Heald, 19' arm, fixture attached	500.
Hack saw, No. 5 Marvel, with automatic feed for motor drive	250.
Hack saw, 9" Acme, for gear motor drive	175.
Hack saw, 12"x15" Racine, gear box for motor	300.
Hammer, 2000 lb. Erie, single leg. (A-1)	1500.
Hammers, 40 lb. and 80 lb. Bradley horizontal helve, each	550.
Keyseater, No. 6 Mitts & Merrill, 31" stroke	900.
Keyway cutter, 24" Morton, capacity 2½" wide	500.
Lathe, 36"x20' Niles-Bement-Pond, for motor drive	1800.
Lathe, 24"x14' Porter, plain change	500.
Lathe, 24"x10' Putnam, 18" chuck, taper attachment	400.
Lathe, 20"x10' Rahn-Larmon, q. c. g., t. a	650.
Milling machine, No. 3-B Milwaukee, single arm	1100.
Milling machine, No. 0½ Cincinnati plain	300.
Milling machine, No. 0 Kempsmith universal	400.
Milling machine, vertical, No. 4-B Becker	650.
Milling machine, vertical, No. C Becker, single spindle drive	1200.
Milling machine, duplex Knight, table 8½"x32"	575.
Pipe machine, 10" E. C. & B., fair condition	600.
Pipe machines, 8" Oster, with dies, near new	800.
Pipe machine, 6" Oster, with dies	450.
Planer, 60"x60"x20' Cincinnati, 3 heads, g. b., m. d.	4000.
Planer, 36"x36"x10' Cincinnati, 2 heads, belt or motor	750.
Press, No. 59 Toledo, geared, 5" stroke, for motor	3000.
Press, No. 11 Perkins, bed 24"x30", 4" stroke, plain	1000.
Punch and shear, No. 2 Hilles & Jones, 20" throat, 1"x1" plain jaw	600.
Punch and shear, No. 3 L. & A., 6" throat, ¾"x¾" plain jaw, single	500.
Punch and shear, No. 6 L. & A. 5" throat, d. e., ½"x½" plain jaw	450.
Punch and shear, No. 51 Beloit combined, ⅜"x⅜"	175.
Punch, coping, steel plate, 13" thrt., 36" die space, 2 holes 1"x1", for m.d.	600.
Radial drill, 2½' Fosdick, tapping attachment	300.
Radial drill, 3' Dreses-Mueller	300.
Radial drill, 3' Prentice, g. b., t. a	400.
Radial drill, 4' Dreses (Simplex)	275.
Rivet header, 1" Ajax, continuous hand feed	775.
Shaper, 15" Potter & Johnston, universal crank, belt or motor drive	500.
Shear, squaring, 60" Bertsch, 18" gap, cap. 16 ga., power	450.
Shear, squaring, 53" Robinson, 18 ga., hold down, power	300.
Shear, squaring, 36" Niagara 14 ga. hold down, power	150.
Turret lathe, 13" Gisholt, 2¼" hollow spindle	500.

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Air compressor, 12x12 Laidlaw-Dun-Gordon, and 30 h. p., 575 r. p. m., 3-phase electric motor; all for $500.
Friction saw, 48" Ryerson.
Lathe, engine, 16x8 G. & K., q. c.
Lathe, 22"x46"x12' Putnam gap, q. c. g., taper attach.
Miller, Cinti No. 3 univ., O. type.
Miller, No. 2 Hendey univ., compl.
Millers, bench, No. 3 Burke; Rock'd.
Radial drill, 5' Bickford.
Shapers, Smith & Mills 16", direct m. d., and one 12".
Turret lathe, W. & S. 3A, like new.

FOR SALE BY

Machinery Dealers Inc., - 410 Chapel St., New Haven, Conn.

Drill, 6-spindle Rockford, power feed	$325.
Drill, 28" Aurora, very good	150.
Japanning ovens, 39"x36"x36"	125.
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Lathe, 16"x8' Whitcomb, excellent	375.
Lathe, 13"x5' Willard, 100% new	275.
Millers, Owen plain, perfect	175.
Millers, Briggs, practically new	150.
Millers, No. 4 Burke, power feed	85.
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Screw machine, hand, 1" capacity	135.
Screw machine, Foster, 3" capacity	675.

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BORING MACHINE.

No. 3-A Universal horizontal boring machine, 3" bar; very desirable mche.

GRINDERS

10x20 Landis universal.
6x32" Norton plain.
No. 65 Heald cylinder.
24" Norton snagging.
14" Blount wet tool.
No. 8 Besly disc.
No. 14 Besly disc.
No. 1 Cincinnati univ. tool & cutter.
No. 2 Oakley univ. tool & cutter.
Grand Rapids Yankee twist drill.

LATHES

13"x5' Sheppard, geared hd., q. c.
13"x5' Carroll-Jamieson.
15"x6' Rockford semi, q. c.
15"x6' South Bend, semi q. c.
18"x6' Lodge & Shipley.
14"x6' Hendey, geared head, q. c., taper attach., draw in attach.
14"x6' Hendey, yoke head, q. c., relieving attach., draw-in attach.
3½x60 Lo-Swing.

DRILL PRESSES.

20" Silver, b. g.
21" Canedy-Otto, b. g., power feed.
36" New Haven, sliding head.
4" Sipp, ball bearing, 8" overhang.
25" Snyder, sliding head, with t. a.
36" G. & E. sliding head.

MILLERS

No. 1 Van Norman hand.
No. 1 Rockford plain.
No. 1½ Rockford plain.
No. 1½ Cincinnati universal.
No. 2B Brown & Sharpe pl., s. p. d.
No. 34 Ohio plain, dividing head.

TURRET LATHES.

No. 4 Warner & Swasey plain.
No. 6 W. & S., p. f. to car. & turret.

SHAPERS AND PLANERS.

16" Smith & Mills.
20" Smith & Mills.
20" Cincinnati.
30x30x7 Fitchburg, 1 head.

MISCELLANEOUS

Boring mche., No. 2 Rockford horiz.
Brake, 72" Peck, Stow & Wilcox.
Gear hobber, No. 12 Barber-Colman.
Gear hobber, 24" Schuchardt & S.
Gear hobber, 72x20" Cincinnati.
Hammer, No. 3-A High Spd., m. d.
Press, No. 29 Swaine, o. b. i.
Press, No. 4 Toledo, o. b. i.
Press, No. 5 Toledo, o. b. i.
Saw, No. 2 Marvel.

FOR SALE BY

Colcord-Wright Machinery & Supply Co.

1223-29 North Broadway, - - - St. Louis, Mo.

PIPE MACHINE.

12" Curtis pipe machine, first class, with large assortment of dies.

FOR SALE BY

A. F. Strafer, - - - 30 Church St., New York City

BORING MILLS, VERTICAL.

10'—16' Niles extension type, b. d.
16'—36' Niles extension type.
90" Niles, friction feed, b. d.
100" Betts, heavy duty.
84" Bickford, belt drive.
72" Cincinnati rapid production.
53" Niles-B.-P., rapid traverse.
60" Bullard, belt drive.

BORING MILLS, HORIZONTAL.

5" Niles-Bement-Pond, floor type.
6" bar, Bement Miles, floor type.
4" bar, N.B.P. tbl. type, dup. contr.
5" bar Deitrich & Harvey, floor type.
4½" bar Niles, floor type.
3" bar, universal table type, s. p. d.

DRILL PRESSES.

7' Baush tapping attachment.
5' Western radial, s. p. d.
4½' Dreses radial, m. d.
3½' Cincinnati radial, m. d.
310 Baker, heavy duty.
26" Kern, upright, s. h. & b. g.

GRINDERS.

18"x96" Norton pl., arr. for motor dr.
10"x36" Norton plain, overhead belt.
No. 1 Landis universal, belt drive.
84" Diamond surface.

HAMMERS.

600 lb. Erie steam hammer.
500 lb. Chambersburg, steam.
No. 4 Nazel, type I motor drive.
No. 4-B Nazel hammer, motor drive.

TURRET LATHES.

Gisholt 24" modern, motor drive.
Jones & Lamson, 3½"x36" bar equip.
Greenlee 2½"x26", chuck equip.
Steinle 24", new.
Bardons & O., No. 4, wire feed.
No. 2A Warner & Swasey, comb.

ENGINE LATHES.

72"x74' Niles-Bement-Pond, grd. hd.
42"x38' Bridgeford, geared head.
52"x24' Putnam, triple grd., belt dr.
36"x16' N.-B.-P., new, triple geared.
36"x16' N.-B.-P., triple geared, m.d.
36"x30' L. and S., selective head.
36"x16' L. and S., motor drive.
24"x12' Prentice, geared head.
30"x16' N.-B.-P., q. c., m. d.

MILLING MACHINES.

No. 3 Hendey, plain, cone type.
No. 3-B Brown & S. hvy., plain.
No. 4 Cincinnati plain, high power.
No. 2-B Brown & Sharpe, heavy.
No. 8 Becker duplex, s. p. d.
Mfg. type, B. & S. heavy No. 13.

PLANERS.

120"x120"x25' Niles, motor drive.
84"x84"x30' Sellers, motor drive.
72"x72"x30' Sellers, belt drive.
60"x48"x14' Cincinnati, gr. box, m.d.
48"x48"x16' N. B. P. rev. motor dr.
52"x36"x22' N. B. P. rev. motor dr.
42"x42"x30' new Niles-Bement-Pond reverse motor drive.
42"x42"x26' N. B. P. rev. motor dr.
36"x36"x30' N. B. P. rev. motor dr.
36"x36"x16' new Niles-Bement-Pond reverse motor drive.

PUNCHES AND SHEARS.

No. 3 Hilles & Jones dbl. 36" t., b. d.
No. 17 Williams & White, 34" tht.
No. 5 Hilles & Jones, 48" t., m. d.
No. 4 H. & J., dbl., 48" thr., m. d.
Angle shear, H. & J., 6"x1" cap.
Rotary, Gray No. 1—3/16" cap.

ROLLS.

18' Bertsch, pinch type, ⅜" cap.
20' Hilles & Jones, ¼" cap. m. d.
16' Rolls, 1" cap., modern motor dr.
10' Southwork, ⅜" capacity.

MISCELLANEOUS.

Bulldozer, W. & W. No. 4.
Cold saw, 60" Newton, m. d.
Cold saw, 50" Espen Lucas, m. d.
Core wire straightener, ⅛" to 5/16".
Gear cutters, 6A Cincinnati, motor drive; capacity 72"x20".
Hydraulic forging press, 1200 tons.
Plate planer, 25' H. & J. No. 6.
Riveter, Allen, 48" throat, 24" gap.
Tapping attachment, 1" Errington.
Welding torches and generators.
Wheel press, 200-ton Cardwell.

FOR SALE BY

Schmitz & Co., - - 35 S. Clinton St., Chicago, Ill.

Arbor presses.
Bolt threader, Geometric ⅞".
Drill presses.
Grinder, No. 10 Brown & S., 6"x20".
Hack saws, power.
Lathe, 24"x12' Lodge & S., q. c. g.
Lathe 22"x20' American, l. c. g.
Mortiser, hollow chisel Greenlee.
Punch press, Farrell, 14"x24", str. 8".
Woodworking, sheet metal and iron working machinery of all kinds.

FOR SALE BY

M. A. Wertman Machinery Co., 420 Penton Bldg., Cleveland, Ohio

Bolt cutter, Landis 1½" double.
Bolt cutters, National 1½" sgl., (2).
Broach, hydr., No. 3 J N. Lapointe.
Butt welder, Cream City, ⅞" cap.
Drill, 10" Rockford bench, new.
Drill, Detroit 5-spindle.
Drill, National Acme 6-spindle.
Drill, Baker No. 310.
Drill, Natco No. 14, 6-spindle.
Grinder, Fitchburg 6"x20" model A.
Grinder, Badger, double disc auto.
Lathe, Monarch 14"x6", q.c.g., d.b.g.
Motor, Allis-Chalmers, 150 h.p., a c.
Miller, Kempsmith No. 2 plain maximiller.
Miller, duplex, Garvin No. 1½.
Miller, hand, No. 1 Kent-Owens.
Millers.prod.,Kempsmith No.33,(4).
Die heads and collapsible tops, Namco and Geometric 1½" to 6".

FOR SALE BY

Clinton Machinery Co., - - 128 So. Clinton St., Chicago, Ill.

MILLING MACHINES.

No. 3H LeBlond univ., fully equipt.
No. 3 Ohio plain.
No. 3 Cincinnati plain.
No. 20 Van Norman duplex, compl.
No. 2AU Garvin univ., fully equipt.
No. 1Y Brown & Sharpe plain, (2).
No. 2BS Kearney & Trecker univ., with vert. hd., rotary tbl. & d. h.
No. 3½ Fox, power feed.
No.00 Brown & Sharpe, hand miller.
No. 0 Bristol, ball bearing.
Hardinge & Pratt-W. bench type.

LATHES.

20"x10' Boye & Emmes, l.c.g., taper attach., chucks.
16"x 8' Prentice, q. c. g., complete.
16"x 6' Canedy-Otto, s. q. c. compl.
14"x 7' South Bend, complete.
14"x6' Monarch, q.c.g .d.b g., comp.
14"x 6' Hendey, q.c.g.,oil pan, taper attachment, draw-in attach., collets, relieving attachment, (3).
11"x 5' Seneca Falls, q. c. g.
10"x 5' Seneca Falls, q. c. g.
Van Norman & Sloan Chace bench.

DRILLS AND PUNCH PRESSES.

16" Kokomo, high speed, gear box.
20" Rockford, b.g., p.f., w & l.fd., (3).
20" New Excelsior,b g.,p.f.,w.l.fd.(3)
1-spindle Leland & Gifford, h. s., b. b., ⅞" capacity.
4 and 6-sp. Avey, h. s., b. b., ⅞" cap.
4-spindle H. & W., h. s., b. b., (2).
Knight drilling and milling mche.
26" Barnes. b.g., s. h., with tap. att.
4-spindle Barnes, gang drills, (3).
2-spindle Foote-Burte.
No. 00 Verson bench presses, (2).
No. 2 American Can, o. b. i.
No. 3 Consolidated, o. b. i., b. g.
No. 4 Consolidated, o. b. i., 5" str.
No. 4 American Can, o. b. i.
No. 5½ Walsh, o. b. i.
No. 64A Consolidated, s. s., 8" str.
No. 83 Consolidated, adj. table.
No. 36 Niagara, geared, Stiles type.
No. 50 Perkins, o. b. i., b. g.

SHAPERS

16" Ohio, h d., b. g.
16" Rockford, b. g.
21" Smith & Mills, b. g.
24" Smith & Mills.

SCREW MACHINES.

No. 1 Foster, wire feed and collets.
No. 1 Warner & S., wire fd., collets.
No. 1 Bardons & O., wire fd., collets.
No. 4 W. & S., wire feed collets.

MISCELLANEOUS.

Hack saws, Nos. 1 & 2 Marvel.
Keyseaters, Nos. 1 & 2 Davis.
Grinder, surface W. & M., with magnetic chuck and generator.
Oil separators, motor driven.
Motor, 75 h. p. General Electric slip ring,1200 r.p.m.,3 ph..60 cy.,compl.
Punch, Scully single end, 22" throat, architectural jaw & shearing att.
Riveter, No. 2A High Speed.

FOR SALE BY

The Central-West Machinery Co. 116-118 E. Water St., Cincinnati, O.

Drill, Aurora, back geared., power feed adjustable table	$ 100.	Lathe, 16 x8' Cincinnati, q. c.	$ 475.
Drill, Aurora, tap. att., w. & l f.	100.	Lathe, 18"x12' LeBlond, l. c.	350.
Drill, radial 3' Mueller, p. f.	375.	Miller, hand No. 0 Steptoe	125.
Gear hobber, No. 3 Farwell, 26"	900.	Miller, pl., No. 3 Kempsmith, a. p. f.	750.
Grinder, 10"x30" Landis	325.	Planer, 26x26x14 Lodge & D.	400.
Grinder, No. 60 Heald, cylinder	600.	Planer, 30x30x16 Gray, 2 hds.	1000.
Lathe, 14"x8' Steptoe q. c	400.	Tur. lathe, No. 4 Milholland, (2)	450.
Lathe, 14"x12' Carrol & J.	250.	Turret lathe, 3x36 J. & L. (bar)	650.

FOR SALE BY

Wm. C. Johnson & Sons Machinery Co.,

1211-1223 N. 12th St., St. Louis, Mo.

PRECISION TOOLS.

No. 1 Dayton swaging machine.
No. 3 Langelier swaging machine.
No. 2½—7" swing Stark bench lathes.

GEAR CUTTERS.

No. 1 Schuchardt & Schutte.
No. 1 Farwell hobber.
24" Whiton bevel and spur.
26" Brown & Sharpe spur.

SCREW AND TURRET MACHINES.

2"x24" J. & L., geared head.
3"x36" J. & L., geared head.
No. 1 Pratt & Whitney, (2).
No. 3 Wood Tilted Turret.
No. 4 Wood Tilted Turret.

GRINDERS.

No. 2 Diamond surface.
No. 2 Walker universal.
No. 1 Fraser surface.
10"x30" Webster & Perks, univ.
5"x18" Ott.
Schmidt automatic.
No. 50 Gardner disc.
No. 16 Brown & Sharpe plain.
8" Heald rotary, magnetic chuck.
Washburn twist drill grinder.

LATHES.

10"x 5' Star bench, t. a.
15"x 6' Monarch, q. c. g.
18"x 8' Boye & Emmes.
20"x10' Boye & Emmes.
20"x11' Lehman.
21"x12' Sidney, q. c. g., t. a.
26"x12' Putnam.
38"x14' Pond, triple geared.
60" New Haven turning.

MILLING MACHINES

No. 2½B Milwaukee vertical.
No. 3 Rockford, hand.
No. 1½ Brown & Sharpe.
No. 3 Oesterlein plain.
No. 3 Cincinnati plain.
Owen duplex.
No 25 Becker.
No. 12 Kempsmith.

DRILLING MACHINES.

3' arm Dreses radial.
6' arm Cincinnati-Bickford radial.
24" Aurora.
22" Barnes, sliding head.
23" Barnes.
20" Champion.
Avey high speed, bench.
4-spindle Allen, h. s.
3-spindle Allen.

PLANERS AND SHAPERS.

10'x7'x25' Detrick & Harvey.
30"x30"x8' Belmer.
24"x24"x 6' Powell.
42"x42"x12' Powell.
48"x48"x14' Pond.
18" Walcott crank shaper.
24" Cincinnati crank.

MISCELLANEOUS.

Air compressors, (15).
Belt lacers, 9" & 12" Peerless.
Boring mill, 42" Niles, 2 heads.
Boring mill, 84" Niles.
Boring mche., hor., No. 2 P. & H.
Bulldozer, 75-ton Lourie hydraulic.
Furnaces, Stewart cyanide hardening
Hammer, Bradley 60 lb. belt power.
Hammer, Morgan 600 lb. steam.
Hammer, 800 lb. steam.
Hammer, Bement 2000 lb. steam.
Keyseaters, No. 2 Mitts & M.
Metal saw, Espen-Lucas 31".
Presses, No. 19 Bliss.
Punch, No 7 Long & A., 4" throat.
Shear, 62", 18" gap, No. 10 ga.
Taper rolling mche., No. 2 Hess.
Wheel press, 40", 150-ton.
Wheel press, 90", 300-ton.

FOR SALE BY

P. Pettler & Son, Beaver Falls, Penna. (Pittsburgh District)

GRINDERS

16"x48" Landis crank grinder.
12"x52" Landis plain self-contained grinders, (3).

LATHES

Chard 18"x8-9-11' bed, semi-quick-change gear, 3-step cone drive, (12).
Putnam 26"x12' bed, semi-quick-change gear, 3-step cone drive, (2).

FOR SALE BY

I. H. Johnson Jr. Co., - 337 N. 15th St., Philadelphia, Pa.

We are retiring from business and must remove all equipment from our shop within the next thirty days.

Crane, 20 ton P. & W., 3 mtr. 30'-6".
Drill, 4' Dreses Mueller radial.
Drill, 2½' Carlton high speed radial.
Drill, 24" Barnes upright.
Drill, 20" Foote Burt heavy duty.
Drill, 16" 2-spindle Pilton.
Drill, 14" 2-spindle Henry & Wright.
Gear cutter, 36" Becker Brainard auto.
Gear cutter, 12" Gould & E. auto.
Grinders, No. 2 Landis cylindrical universal.
Grinders, No. 4 Gardner dbl. end disc.
Grinders, No. 1 Besly dbl. end disc.
Lathe, 24x12 Hamilton belt.
Lathe, 20x10 Pond belt.
Lathe, 18x 6 Blaisdell belt.
Lathe, 18x 6 Bradford belt.
Lathe, 16" McCabe turret, belt.
Miller, No. 3 Garvin plain hand.
Miller, Becker Lincoln type.
Miller, 5 B Becker Brainard vert.
Motors, all sizes 220 d. c.
Planer, 84"x84"x30' Sellers, 4 heads.
Planer, 60"x60"x24' Sellers, 4 heads.
Shaper, 24" American shifting belt.
Slotter, 12" Sellers crank slotter.

Also all small tools and equipment.

FOR SALE BY

J. L. Lucas & Son, Inc. - No. 3 Fox Street, Bridgeport, Conn.

BORING MILLS.

24" Bullard, v. t. l., 3 jaw comb., chuck table, with New Era hd., serial 6920.
36" Bullard, v.t.l., 3 jaw comb., ck. tbl., pwr. rapid traverse, serials 5000, (2).
42" Bullard two head vertical boring mill.

DRILLS.

No. 11 Natco multiple, 7-spindle.
No. 12 Natco multiple, 12-spindle.
Radial, 3' Carlton, tapping att., (2).
Radial, 4' Hammond, tapping att.

GRINDERS.

No. 2 Brown & S. univ., complete.
No. 2 B. & S. surface, mag. chuck.
No. 3 Abrasive surface, Walker chuck.
No. 33 Abrasive surface chk., m. d.
No. 2 Taft-Peirce univ. full equipt.
6x32 Norton pl., late type, serials 8300.
10x18 Norton pl., late type, serial 9600.
10x80 Norton plain.
24x144 Landis plain, rebuilt.
No. 6—20 Besly double spindle disc.

HAMMERS.

100 lb. Bradley Compact.
250 lb. Beaudry Champion.
500 lb. Mossberg No. 5 auto. drop.
600 lb. model D. Billings Spencer.

LATHES.

14"x6' Hendey, yoke head, (15).
16"x8' Hendey, yoke head.
32"x18' New Haven, 95% new.
32"x12' Bridgeford, grd. hd., mtr. dr.

MILLERS.

No. 2C Hendey univ., s. p. d., latest pattern., comp.
No. 1½ B. & S. univ., fully equipt.
No. 1½ Hendey-Norton univ., fully equipt.
No. 2 LeBlond univ. equipment.
8" P.&W. auto. millers, (brand new).
12" P. & W. auto. millers, rebuilt.
No. 24 Ohio heavy duty plain, q. ch.
No. 34 Ohio heavy duty pl., dbl. b. g.

MISCELLANEOUS.

Eyelet machines, No. 05 Waterbury.
Gear cutter, 4" Waltham excellent.
Surfacer, No. 3 20" Peerless horiz.
1x5 New Britain auto. screw.
No. 24 New Britain chucking.
Thread miller, 6x48 Pratt & Whitney.

FOR SALE BY

E. L. Klauber Machinery Co., 320 South Third St., St. Louis, Mo.

Drill, Gardam multipie, 12 spindle.
Drill, 24" Barnes, b. g., s. h.
Drill, radial, 42", cone drive.
Drill, Taylor & Fenn, 2-spindle.
Drill head, 4-spindle, adjustable.
Grinder, Bryant No. 18, chucking.
Grinder, Besly No. 10 disc.
Grinder, B. & S. No. 3 cutter.
Grinder, B. & S. No. 11, plain cyl.
Lathe, 14"x6' Bradford.
Lathe, 14"x6' Reed-Prentice.
Lathe, 16"x5' Hendey, tie bar.
Lathe, 16"x8' South Bend.
Lathe, 16"x8' Monarch, q.c.g.,d.b.g.
Lathe, 16"x8' Lodge-Shipley, q. c. g., d. b. g.
Lathe, 21"x8' LeBlond, q.c.g., d.b.g.
Lathe, 24"x10' Lodge & S., q. c. g.
Lathe, 26"x10' C.M.C., d.b.g.,q.c.g.
Miller, No. 2 Cincinnati plain.
Miller, No. 23 Fox.
Miller, No. 3 Burke.
Miller, No. 0 Burke, bench.
Planer, American 30"x30"x8'.
Punch press, Toledo No. 3, o. b. i.
Screw machine, Greenfield, 1".
Screw machine, No. 3 Garvin.
Threading machines with Landis heads, 4" cap.; complete unit for manufacture of nipples.
Turret lathe, Warner & S. No. 2.

FOR SALE BY

Reliance Machinery Sales Company

1405 Brighton Road, - - - N. S. Pittsburgh, Pa.

Automatics, Nos. 52, 53 & 55 Acme.
Blower, No. 5 Champion, 6¾" outlet.
Blower, Amer. pressure, 461 cu. ft.
Bolt cutter, ¾" Acme class "A," 2-sp.
Boring mill, No. 44 D. & H., floor type, 3¾" bar.
Boring mill, Niles horiz., 4½" bar.
Boring mill, 24" Bullard rapid pro.
Boring mill, 24" Colburn, 1 head.
Boring mill, 51" Niles, 2 heads.
Boring mill, 62" Bullard, 2 heads.
Brake, 48" Keane, capacity ⅛".
Brake, 72" Dreis & Krump, cap. 16 ga.
Broaches, Nos. 3 and 4 LaPointe.
Buffers, 10 h. p. 220-3-60, 3600 r.p.m.
Bulldozers, No. 4 Williams & W.
Drills, 26" Barnes, sliding head.
Drills, 36" Snyder, sliding head.
Drill, model "F" Turner auto. tur.
Gear cutter, 36"x10" G. & E., s. p. d.
Grinder, Oliver drill, ⅜" cap., m. d.
Grinder, WPL New Yankee, cap. 2½".
Grinders, Nos. 11 & 12 B. & S. pl.
Grinder, 10"x30" Landis plain.
Grinder, 12"x24" Modern plain.
Grinder, No. 16 Besly, double disc.
Hammer, 2-A High Speed, m. d.
Hammer, 80 lb. Bradley helve.
Hammer, 300 lb. Bradley upright helve.
Hammer, No. 4-I Nazel forging.
Lathe, 12"x 6' Seneca Falls.
Lathe, 12"x10' Davis tool rm., q.c.g.
Lathe, 14"—28" Fay & Scott gap.
Lathe, 14"x 6' Hendey, g. h., m. d.
Lathe, 14"x 6' Seneca Falls, q. c. g.
Lathe, 16"x 8' Hamilton, q. c. g.
Lathe, 16"x 8' Hendey, g. h., m. d.
Lathe, 18"x 8' American, g. h., m.d.
Lathe, 18"x8' L. & S., q. c. g., m. d.
Lathe, 18x10 Whitcomb-B., g.h., s.p.d.
Lathe, 20"x10' Hendey, g. h., m. d.
Lathe, 20"x12' S.& B., q.c.g., cone dr.
Lathe, 20"x12' Hendey, tie bar.
Lathe, 24"x 8' Hendey, tie bar.
Lathe, 24"x12' Boye & Emmes, q. c. g., d. b. g.
Lathe, 30"x12' Boye & Emmes, q. c. g., d. b. g.
Lathe, 34"x12' LeBlond, triple grd.
Lathe, 18" Libby, 3½" sp., belt or m. d.
Miller, No. 1 Knight drilling.
Miller, No. 1 Bickett hand.
Miller, No. 1½ American plain.
Miller, model "C" Becker, vert.
Motor, 5 h. p. Wagner, 220-1-60.
Pipe machine, ½" to 2" Williams.
Pipe machine, 8" Cox, cap. 2½" to 8".
Pipe machine, Merrill, 2½" to 12".
Planer, 24"x24"x12' Gray, 1 head.
Planer, 36"x36"x8' Cincinnati, 1 hd.
Planer, 48"x48"x12' Betts, 3 heads.
Planer, 48"x48"x12' Woodward and Powell, 3 heads.
Press, No. 4 Toledo, o. b. i., grd.
Press, No. 20 Bliss, o. b. i., flywheel.
Press, No. 4 Bliss, Stiles type.
Press, 30-ton Lucas forcing.
Press, Ferracute DD2, o. b. i., cam.
Press, No. 10 Bliss reducing, 4" str.
Press, No. 54 Toledo trimming.
Punch, Royerstord d. e., cap. 1"x4", arch. jaw, 18" throat.
Punch, Wickes, 48" thrt., cap. 1½"x1".
Radial drills, 4' & 5' Prentice plain.
Reduction gear, Foote, 50 to 1.
Rolls, Beloit initial type, 4½"x50".
Saws, No. 5 Marvel high spd., 6x6, (2).
Saw, American metal swing, m. d.
Shaper, 24" Cincinnati, b. g. crank.
Tapper, ½" Webster & Perks, 1-spdl.
Tapper, 1½ Webster & Perks, 2-spdl.

Our warehouse is full of bargains. What have you for sale?

WANTED BY

The Stearns-Roger Mfg. Co.

1718 California St., Denver, Colorado

BORING MILL

We are in the market for a 54" Bullard boring mill, one side head with square turret, one vertical head hex. turret. Must be modern.

FOR SALE BY

A. M. Stoehr Machinery Co., 560 W. Adams St., Chicago, Ill.

Boring mills, 30" Bullard; 60" & 12' Niles; all have 2 heads.
Brake, 8' Dries & Krump, 14 gauge.
Compressors, 12 different sizes.
Drill presses, 4-spindle Avey, h. s.
Engraving machines, 3 Gortons.
Furnaces, melting, for soft metal and aluminum.
Gear cutters, 72" Brown & Sharpe; 60" Gould & Eberhardt; and others.
Grinders, LaSalle pl. and automatic.
Lathes, 18x8 Barnes, hvy. duty; 11" Rockford; and others.
Milling machines, plain & universal; also No. 20 Van Norman, duplex.
Oil extractors, centrifugal, (8).

Punch presses, No. 16 Bliss horning; No. 34 Bliss; arch, and others.
Punch & shears, No. 3 Long & A., d. e., $\frac{1}{2}$" thru $\frac{3}{4}$"; No. 14$\frac{1}{2}$ W., d.e., 15" throat; No. 5 Long & A., d. e.
Riveters, No. 103 Grant, motor drive; Nos. 4-A & 5-A High Speed; No. 1 L. & A., $\frac{3}{4}$" cap.; No. 8 Stimpson automatic, for split rivets.
Saws, 9x9 Sterling high speed; 12" band.
Screw machines, (2); Nos. 52 & 53 Acme; others plain and automatic.
Tapper, R. & S., $\frac{1}{2}$" capacity.
Welders, both spot and butt.
Wire straightening machines, (5).

FOR SALE BY

McDonald Machinery Co., 1531-33 N. Broadway, St. Louis, Mo.

Bolt threader, Acme 2 and 3 heads.
Clock, electric time system.
Demagnetizer, Walker.
Drill, Baush 18-spindle.
Drills, Baker and Rockford heavy duty.
Drills, Leland-Gifford 1, 2 and 3 spindle, h. s., b. b.
Drill, Detroit 5-spindle horizontal.
Drills, Demco, H. & W., Kokomo 1-spdl., Sipp 1 & 2 spdl., h. s., b. b.
Drills, 20", 24", 34" b. g., & tapping.
Furnace, Holcroft 92 k.w. annealing.
Gear shaper, Fellows 36".
Grinder, Heald No. 60 cylinder.
Grinders, American No. 2 surface; Blount, 20" wet, (3); Pratt & W. 14" vertical surface; Ott 8"x18"; Landis 12"x48"; plain; Norton 10"x24" plain; Modern internal.
Hack saws, 4x4, 6x6 & 6 Racine Jrs; Atkins 4x4", 8x8" high speed.
Lathes, South Bend 24"x14'; LeBlond 16"x8'; 20"x8', q.c.g.; Davis 22"x10' Star 12x5, tool room; L. & S. 16"x6'; Cataract precision, collets, cross slides, etc. 40 other assorted sizes.
Punches, Wetterhahn 18", throat $\frac{3}{4}$" in $\frac{3}{4}$"; Long & A. No. 0, 1" in 1".
Punch presses, Bliss No. 18 and Toledo No. 1; Swaine Nos. 29, 33 and 37 o. b. i.; Emco & LaSalle bench type; Rockford No. 3, o. b. i.

Planers, Gray 28"x28"x6', 1 head; Whitcomb-Blaisdell 24"x24"x6', 1 head.
Milling and drilling mches., Knight No. 1$\frac{1}{2}$ with p. f., rotary att.
Milling machines, Kempsmith No. 2; Ohio No. 20 plain; Becker "SD" vertical, rotary table. 17200 lbs.; Cin'ti No. 3 pl.; American No. 1$\frac{1}{2}$ univ.; B. & S. No. 1 pl.; B. & S. 1$\frac{1}{2}$; Ohio 34; LeBlond No. 3-H plain; Brown & S; No. 3 pl.; Cincinnati No. 2 pl. and Becker No. 4-B vert.
Rivet spinner, Grant 3/16".
Screw machine, Gridley 1-spdl. 2$\frac{1}{2}$" auto.; Cleveland 1$\frac{1}{2}$" auto.; P. & W. No. 2$\frac{1}{2}$ hand; Foster No. 3 hand; Woods No. 2 tilted turret head; Bardons & Oliver No. 7; National Acme No. 52 auto., 4-sp., m. d.
Shapers, Springfield 12"; Whipp 16"x20"; 24" Barker; 14" Steptoe; S. & M. 13"; Cincinnati 20", b. g.
Schleroscope and amplifying gauge.
Shears, 60" thrt. rotary slitting, (2).
Stencil machine, Bradley.
Tapping machine, Garvin No. 2.
Turret lathes, Warner & S. No. 3-A; Potter & Johnston No. 6-A.
Welders, 20 k. w. spot, Winfield.
Welders, butt, Federal, $\frac{3}{8}$" rds.
Lot of iron bench legs.

FOR SALE BY

B. L. Saltzman, { **809 W. Lake Street, Chicago, Ill.** / **524 W. Van Buren St., Chicago, Ill.**

Bolt threader, Geometric 1¾".
Boring mill, No. 1 Barrett.
Drills, Cincinnati b.g., taper att., 20".
Drill, Fox multi-spindle.
Gear hobber, No. 5-A Lees-B.
Gear generators, No 6 & 11 Gleason.
Grinder, No. 60 Heald internal.
Grinders, Taylor & Fenn cylinder.
Lathes, D. & W. Pond 16"x7'.
Lathes, Lodge & Shipley 16"x10'.
Miller, No. 5 LeBlond.
Punch presses, Bliss, (Stiles type), No. 2½.
Screw machines, Bardons & Oliver No. 4.
Screw machines, Foster No. 6.
Screw mchs., Warner Swasey No. 6.
Screw machines, Warner & Swasey, hand, Nos. 1 & 2.
Shapers, 12", 16" & 24".
Motors and Generators—Factory Transmission.

FOR SALE BY

Brownell Machinery Co., - 150 Pine St., Providence, R. I.

DRILLS.

5' Prentice Bros. radial.
4' Prentice Bros. radial.
2-spindle Leland, b. b.
25" Weigel, sliding head.
22" Snyder, stationary head.
18" Taylor & Fenn sensitive.

GEAR CUTTERS

No. 13 B. & S. 18x4, spur and bevel.
No 3 B. & S. 26x8, spur.

GRINDERS.

No. 2 Morse universal 12x30.
No. 11 B. & S. plain 4x30.
No. 1 Norton tool and cutter.
No. 2 B. & S. cutter and reamer.
No. 1 B. & S. automatic surface.
20" Blount wet tool.
20" Diamond standard emery wheel.

LATHES.

9" Brown & Sharpe universal hand.
B. & S. polishing & finishing.
11"x4' South Bend screw cutting.
14"—19" Carroll patented gap 10'.
20"x8' Roulsted.
20"x10' Monarch, q. c. g.

MILLING MACHINES.

5-B Brown & Sharpe plain, 65" table feed.
No. 42 Oesterlein pl., 42" table feed.
No. 2-B heavy B. & S., constant sp.
No. 2 heavy B. & S., cone drive.
No. 2 Brown & Sharpe vertical.
18" Cincinnati, b. g. plain.
No. 6 Whitney hand miller.

PLANERS AND SHAPERS

17"x17"x4' Whitcomb.
17"x20"x4' Whitcomb-Blaisdell.
36"x36"x12' Gray, spur gear.
7" Rhodes shaper.
15" Potter & Johnston.
18" Springfield.
16" Ohio plain.

ROLLING MILLS.

4x6 McWilliams.
5x8 Standard.
6x10 Standard.
12x20 plain.

SCREW MACHINES.

No. 0 B. & S. wire feed, hand.
No. 2-F B. & S. hand, constant speed.
No. 4 B. & S. plain, wire feed.
No. 6 B. & S., g. f. h.

MAGNETIC CHUCKS.

8x10 Taft-Pierce rectangular magnetic chucks, 110 v., d. c., suitable for No. 2 surface grinders; new very low price.

MISCELLANEOUS.

Band saw, Atlantic Iron Works 36", tilting top.
Band saw, 12" H. & R. metal cutting.
Broaching machine, No. 2 Lapointe (Hudson).
Filing machine, Thurston.
Hack saw, 13"x16" Peerless high speed.
Hammer, 500 lbs. Miner & Peck, drop.
Hammer, 300 lbs. Beaudry Champion power.
Planer, No. 244 Fay & Egan, surface 550 v., 60-cycle, 3-phase motor.
Ripsaw, No. 388 Fay & Egan, box shook.
Shaft straightener, Rockford 1½"x10'.
Slotter, 12" Bement-Miles.
Swaging machine, No 2 Langelier.

FOR SALE BY

W. P. Little Co., - West 9th & Front Sts., Cleveland, Ohio

GRINDERS.

No. 60 Heald cylinder.
8" Heald rotary surface.
No. 1 B. & S. universal.
No. 3 Modern universal.
10"x24" Landis plain, self-contained.
No. 75 Heald internal.
No. 6 Bryant chucking.
No. 10 Besly disc.
No. 24 Gardner vertical disc.

DRILLS, HEAVY DUTY.

No. 25 Foote-Burt, single pulley.
Baker type F (3).

LATHES.

14"x6' American, q. c. g. and t. a.
16"x6' Bradford, q. c. g. and t. a.

MILLING MACHINES.

No. 13 Garvin.
No. 0 Cincinnati plain.

POWER HAMMERS.

Beaudry, 50 lb.(2).
Bradley 50 lb. upright compact.

PUNCH PRESSES.

E. G. 22 Ferracute, geared.
No. 54 Cleveland straight side.

GEAR SHAPERS.

24" Fellows gear shapers, (2)

MISCELLANEOUS.

Cold saw, 20" Burke.
Radial, 4' Bickford, semi-universal.
Radial, 3' Bickford, cone type.
Slotters, 8" & 10" rotary tables.
Spline miller, 2" Pratt & Whitney.
Wiring machine, No. 1 Magee.

Partial list; send us your inquiries; 150 other tools in stock.

FOR SALE BY

Jones Machine Tool Co., - Front & Pike Sts., Cincinnati, O.

LATHES.

16"x 6' Lodge & Shipley, q. c. g.
16"x10' Monarch, q. c. g.
16"x 6' Hendey, q. c. g.
18"x 8' Reed-Prentice grd. hd.
19"x10' LeBlond, q. c. g.
28"x12' Reed, l. c., t. a.
38"x28' American, geared head.
46"x17' New Haven, triple geared.

MILLING MACHINES.

No. 2 Cincinnati universal.
No. 3 Cincinnati plain.
No. 4 Cincinnati plain.
No. 4G LeBlond plain, motor dr.
No. 1½ American plain.
No. 3 Brown & Sharpe plain, (2).
No. 3 LeBlond plain.
No. 3 B. & S. vert., s. p. drive.

RADIALS AND DRILL PRESSES.

3' Bickford, cone drive.
4' Morris, s. p. drive.
5' Carlton, s. p. drive.
6' Dreses, motor drive.
24" Hoefer, stationary head.
24" Aurora, sliding head.
26" Hoefer, stationary head.
4-spindle Avey, b. b.

PUNCH PRESSES AND SHEARS.

No. 18 Bliss, o. b. inclinable.
No. 2½ Consolidated, o. b. inc.
No. 5 Etna, o. b. inc., 3" stroke.
No. 63 Consolidated s. s. press.
No. 34 Toledo, stiff back.
No. 31 Toledo, stiff back.
No. 17 Williams & White, 24" thr.
No. B Long & Allstatter, 18" thr.
No. 6 Whiting, single end.
No. 3 Bliss double crank.
No. 10½ Badger.

PLANERS AND SHAPERS.

24"x 6' Powell, 1 head.
30"x 8' Cincinnati, 1 head.
48"x36"x12' Cincinnati, 2 heads.
24" Kelley shaper, b. g.
20" Cincinnati shaper, b. g.
17" Smith & Mills, b. g.
16" Smith & Mills, cone drive.
16" Ohio, b. g. shaper.
16" Rockford, b. g. shapers.
16" Gould & Eberhardt shaper.

MISCELLANEOUS.

Bolt cutters, 2½, 1½" & 1" Acme.
Boring mill, 42" Bullard vertical.
Boring mill, Fosdick 3" horizontal.
Boring mill, Cleveland 2½" horiz.
Brake, hand, 10' Robinson, 16 gauge.
Chain hoists, various sizes.
Hammer, steam, 800 lb. Niles.
Millers, hand, (6).
Press, 30-ton Lucas forcing.
Press, 50-ton Lucas forcing.
Shear, power square, 60" Robinson.
Slotter, 10" Niles vertical.

Write for our large Stock List.

FOR SALE BY

Severin-Tripp Machinery Co., 25 Church St., New York, N. Y.

Boring mill, vertical, 53" Niles.
Boring mill, vertical, 96" Betts.
Boring mill, vertical, 12" Betts.
Boring mill, vertical, 10' Pond.
Boring mill, vertical, 6' Pond.
Boring mill, horizontal, D. & H. 5" spindle.
Boring mill, hor., Niles, 4½" spdl.
Boring mill, hor., Niles 6" spindle.
Boring mill, hor., Bement 4" spdl.
Brake, 8' Ohl, 16 gauge.
Bulldozer, Wm. & W. No. 3.
Compressor, C. P. T. 15x9x10.
Compressor, C. P. T. 8x8.
Crane, 5-ton, 45' span, 140' runway.
Crane, 8-ton, 52' span, 170' runway.
Hammer, 4 B Nazel.
Hammer, 400 lb. Chambersburg.
Lathe, 18"x 6' Champion.
Lathe, 24"x12' Prentice, geared hd.
Lathe, 24"x16' 6" Greaves-Klusman, oil country.
Lathe, 30" LeBlond, 22' cent. d. c. d.
Lathe, 36"x30' L. & S., geared head.
Lathe, 42"x28' Putnam, geared hd.
Lathe, 48"x38' Pond.
Lathe, 60"x38' Pond.
Lathe, 72"x38' Pond.
Lathe, gap, 18"x36" Fay & Scott.
Pipe machines, 6" & 8" Saunders.
Pipe machines, 4" Bignall & Keeler.
Planer, 36"x16' Pond, m. d., d. c.
Planer, 36"x36"x26' Pond.
Planer, 42"x42"x26' Pond.
Planer, 72"x72"x30' Sellers, b. d.
Press, 500-ton United E. & F.
Press, 1000-ton Southwark.
Punches, No. 4 Hilles & J. dbl. end.
Radial drill, 30" gang, b. d.
Radial, 36" Cin. Bickford, s. p. d.
Radial, 4' American, s. p. d.
Radial, 6' American, d. c. drive.
Rotary planer, Cleveland.
Rotators, 5-ton, 5-7½, 25-ton.
Shaper, 24" Cincinnati.
Shear, No. 60 Quickwork.
Shear, 64" H. & J., gate, m. d.
Upsetter, National 1".

FOR SALE BY

Henry Prentiss & Co., 439 Communipaw Ave., Jersey City, N. J.

Bolt cutter, 2" Acme, double head.
Bolt header, 2½" Acme.
Boring mill, 24" Bullard, New Era.
Boring mill, 42" Bullard, power rapid traverse.
Boring mill, 102" Poole.
Broaches, Nos. 1, 2, 3 & 4 Lapointe.
Drill, sgl. spdl. H. & W., b. b. sens.
Drills, 24" & 32" Cincinnati.
Drill, No. 25 Foote-Burt high speed, ball bearing.
Drill, 3' American, triple purpose, plain radial.
Drill, 3' Morris radial, s. p., g. b.
Drill, 4' American triple purpose rad.
Drill, 5' Dreses radial, s. p., b. b.
Drill, 6' Cincinnati-Bickford plain radial, s. p., g. b.
Drill, 11' Lynd-Farquhar (wall).
Drill, No. 30 Natco multi spindle.
Drill, 26" Barnes all-grd., 4-spindle.
Gear cutter, 6" Gleason generator.
Gear cutter, 36" Gould & Eberhardt, spur & bevel.
Grinders, 2"-6"-10" Norton plain.
Grinder, 12" Cincinnati universal.
Grinder, No. 2 Norton cutter & tool.
Grinder, No. 60 Heald cylinder.
Grinder, No. 65 Heald cylinder.
Grinder, 14" Pratt & W. surface, b.b.
Grinder, No. 6 Besly disc.
Lathe, 14"x10' L. & S., s. p. or m. d.
Lathe, 16"x 6' American, s.p. orm.d.
Lathe, 17"x16' LeBlond.
Lathe, 18"x 8' LeBlond.
Lathe, 20"x12' American, s.p. or m.d.
Lathe, 24"x10' American.
Lathe, 24"x10' Lodge & Shipley.
Lathe, 30"x12' L. & S. s. p. or m. d.
Lathe, 36"x24' Putnam, geared head, s. p. d., late type.
Lathe, 38"x20' Schumacher-Boye.
Lathe, 26"-44"x16' McCabe, dbl. sp.
Lathe, 24"x 6 & 8' Ohio.
Lathe, 30"x8' Cincinnati, late type.
Planer, 30"x10' Flather.
Planer, 36"x10' Woodward & P.
Planer, 48"x12' Powell.
Planer, 60"x44"x12' Pond.
Planer, 72"x54"x20' Pond.
Press, No. 2½ Billings & Spencer trimming, slide cutting attach.
Presses, Nos. 2, 3 & 5 V. & O. incl.
Press, No. 66 V. & O., s. a.
Press, No. P. G. 2 Ferracute.
Screw machines, auto. 4", 3½", 4½" Gridley.
Screw machines, auto. 3", 5", 1¼", 2½", 4½", 6" Cleveland; 16" G. & E.
Shapers, 16", 20" & 24" Cincinnati.
Shaper, 20" American.
Turret machines, 1¼", 2½", 3½" Acme.
Turret machines, 2½" & 3½" J. & L.

Partial list only. Inquiries addressed to
439 Communipaw Ave., Jersey City, N. J. will receive prompt attention.

FOR SALE BY

F. W. Burns Machinery Co., - Sattley Bldg., Racine, Wis.

PUNCH PRESSES.

No. 1½ Bliss toggle drawing.
No. 64-A Consolidated, f. w. type.
No. 51 Toledo arch press, geared.
No. 83 Consolidated, adjustable tbl.
No. 60½ Bliss rack and pinion.
No. 30 Cameron arch press, f.w type.
No. 10 Excelsior, 20" throat.
No. 56 Beloit punch & shear.

AUTOMATICS

2" & 2½" Cleveland, model A.
No. 2-G. Brown & Sharpe, 1" cap.
No. 3 Acme screw slotter.
No. 1 Brown & Sharpe screw mche.
No. 4 Warner & Swasey, power feed.
No. 3 Bardons & Oliver.
¾" Geometric threaders, (3).

LATHES.

16"x 8' Hamilton, q. c.
20"x10' Bradford, q. c.
18"x8' Lodge & Shipley pat. hd., q.c.
9"x14" Porter-Cable.
20"x18' Pond.
15"x 8' South Bend, loose change.
22" Pryibil spinning lathes.

MISCELLANEOUS.

Blowers, rotary, No. 1 and No. 2 American Gas.
Bolt threader, 1½" Acme.
Drill press, Kerns 6-spindle 16", h. s., b. b.
Engraving mach., No. 1-A Gorton.
Forging machine, No. 1½ Ajax.
Gear cutter, No. 13 Brown & S.
Grinder, Detroit centerless.
Grinders, No. 1½ Landis universal.
Grinder, No. 70 Heald.
Miller, No. 1 Garvin universal.
Miller, No. 3 Burke hand.
Nailing machine, Doig 8 track.
Planer, Gorton No. 10-F 58"x56"x14', two heads on rail, two side heads; brand new, bargain.
Riveting hammer, No. 6-B H. S. ⅝".
Sander, 42" Berlin three-drum.
Shapers, 24" Potter & Johnston.
Welder, butt, No. 20-A-10 Thomson, new, bargain.

FOR SALE BY

Cincinnati Machinery & Supply Co., 215 E. Pearl St., Cincinnati, O.

LATHES.

36"x36' Bridgeford, g. h., q. c. g.
27"x18' Lodge & Shipley, 3 s. c., q.c.
24"x12' Bradford, 3 s. c., q. c.
24"x12' Bradford, l. c. g., taper.
24"x10' American, grd. hd., latest.
17"x 8' LeBlond heavy duty, q. c.
16"x 6' Hendey, yoke hd., q. c.
14"x6' Hendey, yoke hd., q. c.

MILLING MACHINES.

No. 2 Cincinnati vertical, s. p.
No. 2-B hvy. Brown & Sharpe, s. p.
No. 3 LeBlond, cone d., latest type.
No. 3 Kempsmith univ., complete.
No. 2 Garvin duplex.
No. 1 B. & S., 2 hds., planer type.

GEAR CUTTERS AND GRINDERS.

18" Gould & Eberhardt hobber, s. p.
18-H Gould & Eberhardt hob., s. p.
No. 1 Adams Farwell hobber.
72" Cincinnati gear cutter.
No. 13 Brown & Sharpe.
Gleason generators, 6", 11", 18".
10"x36" Landis, self-cont., latest.
10"x20" Landis plain.
12"x32" Landis universal.
12"x72" Brown & Sharpe plain.
No. 21 Besly disc, 36" complete.
No. 60 Heald grinder with angle.

RADIALS AND UPRIGHT DRILLS.

5' American, cone drive.
5' Hamilton, cone drive.
3½' Cincinnati Bickford, gear b. d.
2½' Gang, tapping att., g. b. d
28" Cincinnati cone drive.
26" Rockford, latest, b. g., p f.
20" Barnes, 4-spindle gang.
No. 2 Minster Junior, hvy. duty.

PLANERS AND SHAPERS.

24" Cincinnati, crank, cone drive.
16" Kelly, crank, cone drive.
24" Hendey, friction geared.
26"x26"x7' Gray, one head.
36"x36"x10' Cincinnati, 2 heads.
86"x72"x24' Detrick & H., o. s.
42"x42"x16' Cleveland, 3 hds., o. s.
60"x60"x20' Cincinnati, 3 hds.

MISCELLANEOUS.

Bolt cutter, 1" Landis, dbl. hd.
Bolt cutter, 1" Acme, class A.
Bolt cutter, 2½" Landis, motor dr.
Punch & sh., 1" No. 4 New Doty.
Punch & shear, No. 57 Beloit.
Shear, 16 ga., 72" Strine Bower.

Write for prices and latest catalog.

FOR SALE BY

McMullen Machinery Company, - - Grand Rapids, Mich.

Automatics, ½" Cleveland, (2).
Band saw, Napier, metal.
Cut-off machine, Waterbury-Farrel.
Cut-off saw, No. 4 N. & B.
Grinder, Gisholt tool.
Grinder, No. 6-A Bryant.
Lathe, 24x26 Greenlee flat turret.
Lathe, 9" Porter-Cable.
Miller, No. 2-H Becker vertical.
Millers, No. 25 Becker plain, (2).
Pipe machine, 6" Merrill No. 6½.
Press, Chicago scrap baler.
Press, No. 3 Manville, dbl. acting.
Welder, No. 10-A Thomson.

Ask for complete list.

FOR SALE BY

Clark Machinery Co., 1235 St. Clair Ave., Cleveland, O.

We offer the following real bargains:

Milling machine, Becker vertical, No. 5C.
Milling machine, Ohio universal No. 20.
Milling machine, Kempsmith mfg. No. 32 with pump.
Planers, Gray 26"x26"x7' and 28"x28"x8'.
Press, Robinson No. 15 horning.
Spinning lathes, Pryibil 22" and 18".
Screw machines, Warner & Swasey Nos. 6 and 4.
Screw machines, Foster No. 6, power feed to turret and cut-off.

FOR SALE BY

The O'Brien Machinery Co., 113 N. Third St., Philadelphia, Pa.

Blueprint machine, "B" Buckeye, single phase.
Boilers, h. r. t. and vertical.
Boring mill, No. 1½ Beaman Smith horizontal, floor type, 3½" bar.
Boring mill, vert., 54" Bullard, 2 hds.
Boring mill, vertical, 8' Pond, 2 hds.
Compressors, 12"x10", ER 1, 325 cu. ft., (3).
Die sinker, No. 2 Pratt & Whitney.
Die sinker, No. 3 Pratt & Whitney.
Die sinker, No. 4 Pratt & Whitney.
Drill, No. 14 Natco 12 spindles.
Drill, 20" Foote-Burt.
Drill, 32" Aurora, motor driven, tapping attachment.
Drill, 22" Aurora sliding hd., belt dr.
Drill, radial, 6' Dreses full universal, s. p. drive.
Gear cutter, 12" Gould & E.
Gear shapers, Fellows.
Grinder, No. 2 Cinti univ. 12x36.
Grinder, Ingersoll cutter.
Hammer, 25 lb. Little Giant.
Hammer, 2500 lb., n. b. p., dble. leg.
Hammer, 2500 lbs. Chambersburg steam drop.
Hammer, 2000 lbs. Chambersburg, double frame, steam.
Hammer, 1000 lbs. Chambersburg steam drop.
Hammer, 600 lbs. Cham'burg st. d.
Hammer, 1000 lbs. Niles-Bement-Pond, double frame.
Lathe, 10x23 Porter Cable production
Lathe, 7x32 Cataract bench.
Lathe, 30"x26' Lodge & Shipley, belt, q. c. g.
Lathe, 27"x10' LeBlond, tur. attach.
Lathe, 30"x30' Harrington.
Lathe, 16"x8' Cisco, h. s., q. c. g., taper.
Motors, all sizes.
Milling mche., No. 3 Garvin duplex.
Milling mche., No. 5-B Becker vert.
Pipe machines, 2", 4", 6", 8" & 12" Oster, Cox, Williams, Eaton-Cole & Burnham and Jarecki makes, belt or motor driven, comp. stock.
Planer, 36"x36"x24', Bement, 4 hds.
Planer, 32"x32"x8' Bement-M., 2 hds.
Press, No. 73½ Bliss trimming press, with side shear.
Presses, Nos. 2, 3, 4 Federal, new.
Presses, Nos. 18, 19 and 20 Bliss.
Press, Chambersburg motor driven trimming.
Press, Bliss No. 2, Stiles pat.
Press, No. 049 Toledo.
Press, No. 4 Leffler inclinable.
Punch and shear, 12" throat Cleveland, type EF.
Punch & shear, No. 3 Royersford, double end, 18" throat.
Punch & shear, Buffalo armor plate, combination.
Saw, Newton No. 2 cold saw.
Saw, Espen Lucas No. 10 cold saw.
Shapers, 12", 14", 16", 21" and 24" stroke, assorted makes.
Shaper, 16" Smith & Mills, sgl. grd.
Shaper, 3 Bement-Miles massive heavy duty, traveling head.
Shapers, 20" Stockbridge, with speed box, (2).
Shear, rot., Peck, S. & W. No. 14 g.

FOR SALE BY

Botwinik Brothers, Inc., - 67 Water St., New Haven, Conn.

MAGNETIC CHUCKS

25 Brand new Taft-Peirce Mfg. Co. style No. 810 plain magnetic chucks, size 10"x8", 110 volt. List price $200.00 each. Our price $50.00 each.

Wire, write or phone. Many other bargains.

FOR SALE BY

United Mchry. & Supply Co., 4640 Newberry Ave., St. Louis, Mo.

Bulldozer, U-29, with furnace.
Drills, Moline 9-spindle rail drills, ½" capacity, (2), each.....$ 390.
Hammer, No. 4-A High Speed, good..... 225.
Lathe, 52"x30' Fifield engine lathe, triple geared.....1,435.
Punch, No. 7 Ryerson Kling, 60" throat, and spacing table, 1½" thru 1".

FOR SALE BY

Foster Machinery Company, 10203 Quincy Ave., Cleveland, O.

Bolt cutter, 1½" Acme.
Boring mill, vertical, 42" Bullard.
Grinder, No. 60 Heald, cylinder.
Hack saws, 12x12 Racine.
Lathe, 16"x6' Monarch.
Lathe, 18"x8' Lodge & Shipley.
Miller, No. 00 Brown & S., hand.
Planer, 26"x26"x8' Gray.
Press, No. 3 Stiles.
Riveter, High Speed No. 3-A, h. d.
Shear, alligator, Canton, cap. 1½" sq.
Shear, 36"x18" gap, foot.
Trolleys, I-beam, 1 & 2 ton.

FOR SALE BY

Taylor-Hall Welding Corporation, 3 May St., Worcester, Mass.

BUTT AND SPOT WELDERS.

Guaranteed to be in perfect condition.

One Thomson 75 p. a. spot welder.
One Toledo 110 spot welder.
One Thomson 40-A butt welder.
One Thomson 20-A butt welder, new.
One Toledo No. 3 butt welder.
One Thomson 10-A-6 butt welder.
One Thomson 2A butt welder.
One Thomson 2A auto. butt welder.
One Thomson 80A butt welder.

Many Others.

FOR SALE BY

Mid-West Machine Tool & Supply Co., Davenport, Iowa

High-Grade Production Equipment Priced to Sell.

Automatic, ⅜"-1½" Cleveland.
Automatics, full, No. 2, No. 0 and No. 00 Brown & Sharpe.
Boring mill, No. 2 Rockford horiz.
Drill, 1-S Garvin duplex.
Drills, 4-spdl., 12" and 14" L. & G.
Gear cutter 4" Waltham, (new).
Gear tooth rounder, 12" Ingle.
Grinder, No. 10 B. & S. plain.
Grinder, surf., No. 22 Heald rotary.
Hobber, No. 4 Adams.
Hobbers, Nos. 3 & 12 B. & C.
Miller, No. 2B B. & S. pl., s. p. d.
Miller, No. 13-B B. & S., production.
Miller, No. 4 Cinti. s. p. d., late type.
Planer, D. & H., 10' between housing, 4 head, 25' table.
Planer, 60" Pond.
Radial, 4' American sensitive.
Radial, 4' Mueller.
Screw machines, No. 2 B. & S., p. f.
Turret lathe, 1½" Acme.

Partial list; send us your inquiries.

SIMMONS *New and Used* MACHINE TOOLS

ATTRACTIVE PRICES **MONEY BACK GUARANTEE**

TESTED BEFORE SHIPMENT

Boring Mills

2—24" Bullard New Eras.
3—24" Bullard R. P., side head.
1—34" Bertram (Niles) turret lathe.
1—36" Bullard New Era.
1—36" Bullard rapid production.
2—42" Bullard, two heads.
1—51" Bullard vertical mill.
1—54" Colburn, two heads.
1—60" Cincinnati vert., rapid trav.
1—72" Niles, rapid traverse.
1—10-16' Niles vertical exten. mill.
1—84" Pond spc. extra hvy, 2-hds.
1—No. 0-B Bement-N. horiz. mill.
1—3" Bar Barnes horizontal mill.
1—No. 2 Rochester horizontal mill.
1—No. 2 Rockford horizontal mill.
1— No. 3 Barrett horiz. boring mill.

Millers

1—Newton Slab 56x42x12'
1—48"x33"x20' Ingersoll.
1—36"x36"x20' Ingersoll slab.
1—No. 4 Cincinnati high power pl.
1—No. 4-G LeBlond pl., all geared.
1—No. 3 Brown & Sharpe plain.
1—No. 3-H LeBlond plain.
1—No. 3-B Hendey plain.
1—No. 3 Kempsmith plain.
1—No. 2 Cleveland plain.
1—No. 2 Rockford plain.
1—No. 1½ Cincinnati plain.
1—No. 1 Brown & Sharpe univ.
1—No. 1½ Brown & Sharpe univ.
1—No. 2 Kempsmith universal.
1—No. 2-A Garvin universal.
1—No. 2½ LeBlond universal.
1—No. 3-B Milwaukee universal.
1—No. 1½ Milwaukee vertical.
1—No. 2½-B Milwaukee vertical.
2—No. 3 Cincinnati vertical.
1—No. 4 Cincinnati vertical.
1—Nos. 14 and 15 Garvin vertical.
2—8" Pratt-Whitney automatics.
1—6x132 Pratt-Whitney thread.
1—No. 3½ Pratt-Whitney duplex.
1—No. 2 Garvin duplex.
Hand Millers of all sizes.

Planers

1—72x72x18' D. & H. latest type.
1—62x62x14' Cincinnati, 4 heads.
1—60x60x26' D. & H., 3 heads.
1—60x60x14' Powell heavy, 2 heads.
1—42x42x26' Pond, 4 heads.

Planers—Continued

1—36x36x20' Woodward-P. rev. mtr.
1—36x36x16' N.-B.-P., 4 heads.
1—36x36x10' N.-B.-P., rev. type mtr.
1—36x36x10' Am., 4 hds., mtr. drive.
1—30x30x12 N.-B.-P. rev. motor.
1—30x30x18' Cincinnati Tu-Sp. hvy.
1—24x24x12' American, 2 heads.
4—26"x26"x12' Pond, single head.
2—26x26x6' Gray spur geared.

Drills

1—3' Fosdick radial.
1—3½' Cincinnati-Bickford radial.
1—3' Niles-Bement-P., semi-univ.
1—6' American triple purpose.
1—6' American plain radial.
1—6' American triple geared plain.
1—6' N.-B.-P. universal, tap. att.
1—6' Bickford univ., tap. att.
1—8-spindle Baush drill.
4—No. 2-D Moline 4,6 or 8-spindles.
1—No. 12 Pratt-Whitney mult. spdl.
1—No. 13 Pratt-W. mult., spdl.
1—No. 13 Natco mult. spindle.
3—No. 14 Natco univ. adj. mult.
1—No. 32 Natco mult. spindle.
1—No. 37 Natco mult. spindle.
3—No. 41 Natco str. line mult. spdl.
1—No. 310 Baker drill.
1—4-spindle Dwight Slate drill.
2—4-spindle Allen high speed drills.
1—4-spindle Leland-Gifford drill.
1—3-spindle Allen high speed drill.
1—24" Rockford heavy duty drill.
9—28" Prentice sliding head drills.
2—32" Aurora sliding head drills.
1—42" Cincinnati-Bickford sli. hd.

Grinders

6— 6"x32" Norton plain.
1—10"x36" Norton plain.
3—14"x50" Norton grinders.
2—14"x72" Norton grinders.
1—No. 1 Brown-Sharpe universal.
1—No. 22 Brown-Sharpe internal.
1—No. 16—28" Blanchard vertical.
1—14" Pratt-Whitney vertical surf.
1—Springfield-Brandes vertical.
1—No. 14 Gardner pl. disc grinder.
1—30" Diamond face grinder.
1—30" Safety Emery Wheel Co., face grinder.
1—No. 70 Heald grinder.
1—No. 3 Oesterline universal.

Simmons Machine Tool Corp.

NEW YORK 149 Broadway — **ALBANY** 1212 Troy Road — **BUFFALO** 88 Exchange St.

A Used Machine is as Dependable as the Dealer Who Sells It

MOTCH AND MERRYWEATHER
THE MACHINERY CO
CLEVELAND
DETROIT CINCINNATI
PITTSBURGH

Machines of Quality

BORING MILLS

No. 1 Cleveland Horizontal.
24" Bullard vertical turret lathe, New Era type.
51" Bullard Standard Boring Mill, rapid production.
54" Bullard Rapid Production, two swivel heads.
61" Bullard Maxi-Mill.

DRILL PRESSES

4-spindle Edlund, sens.
36" Snyder Sliding Head.
36" American Sens. Radial.
3½' Cincinnati-Bickford Radial.
3½' American Radial Drill.
6" Western Radial Drill.

GEAR CUTTERS

36-S Gould & E. Gear Cutter.
36-H Gould & E. Gear Hobber.
No. 12 Barber-C. Gear Hobber.
60" Brown & S. Gear Cutter.
72" Brown & S. Gear Cutter.
6" Gleason Bevel Gear Generator.
11" Gleason Bevel Gear Generator.

LATHES

12x5 Hendey tool room.
14x6 LeBlond, q. c. g.
16x8 LeBlond, q. c. g., taper att.
20x10 American, cone drive.
20x10 American, geared head.
20x14 Hendey, taper attach.
24x12 American, cone hd., q. c. g.
36x10 American, geared head.
42x32 American, triple geared drive, 2 carriage motor.

GRINDERS

No. 2 Cincinnati Centerless.
10x50 Norton Cyl.; 6x32 Norton.
14" Pratt & Whitney Vert. surface.
No. 1 LeBlond Cutter Grinder.
10x36 Thompson universal.
No. 255 Heald Rotary, 12" chuck.
No. 255 Heald Rotary, arranged for piston ring grinding.

MILLING MACHINES

18" Cincinnati Automatic.
No. 1B B. & S., sgl. pulley drive.
No. 1 Cincinnati, cone drive.
No. 3 Cinti univ with div.hd., s.p.d.
No. 4 Cincinnati univ., cone dr.
No. 5 Cinti. horiz., rect. overarm.
No. 4 Cincinnati vertical.
No. 4 Cinti. pl., high pwr., sgl. pul. dr.
24x24x20' Ingersoll, fixed rail, 2 side heads, 1 head on rail.

TURRET LATHES

1½"x9" Cincinnati Acme.
No. 2 Warner & Swasey.
No. 4 Warner & Swasey.
6A Potter & Johnston.

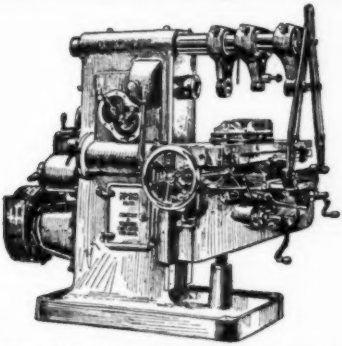
This is a parital list of our equipment. In addition to above list we have several hundred machines going through the process of rebuilding.

Let us send you one of our circulars describing our methods, listing our stock and picturing our plant.

Upon receipt of your address we will forward these circulars periodically.

WAREHOUSE 888 East 70th St., CLEVELAND, O.

Factory Rebuilt Milwaukee Milling Machines



We have left a few of these excellent investments in the styles listed below. Every machine has been completely disassembled, re-scraped, and new parts put in wherever necessary. A K & T rebuilt is thoroughly tested and carries the same accuracy guarantee as a new machine. The demand exceeds the supply. Better write at once.

MACHINES AVAILABLE

No. 1B Plain	**No. 3B Universal**
No. 2A Manufacturing	**No. 4B Plain**
No. 2B Plain	**No. 2B Vertical**
No. 3B Plain	**No. 3B Vertical**

SUBJECT TO PRIOR SALE

Address: Rebuilding Department

MILWAUKEE MILLING MACHINES

KEARNEY & TRECKER

CORPORATION

5926 National Ave., Milwaukee, Wisconsin

QUALITY Rebuilt an

Milling Machines

No. 3 Kempsmith univ., c. p., comp.
No. 4 Cincinnati plain, cone pulley.
No. 3B-heavy Brown & Sharpe plain, single pulley.
No. 3 B. & S. plain, single pulley.
No. 3 Cincinnati plain, cone pulley.
No. 3 Kempsmith plain, cone pulley.
No. 2 Cincinnati plain, cone pulley.
No. 1½ Cincinnati plain, cone pulley.
No. 0 Cincinnati plain, cone pulley.
No. 3 Brown & Sharpe vertical, single pulley, power quick return.
No. 6 Whitney hand mill.
No. 2 Bristol ball bearing hand mill.
No. 7 Becker Lincoln Type mfg.
No. 1-B.R.K. LeBlond univ., c. p., comp.
No. 2 B. & S. univ., cone pulley, comp.
No. 3 Hendey plain, cone pulley.
No. 2-Y Brown & S. plain, cone pulley.
24" Cincinnati auto. duplex milling mche.

Radials and Upright Drills

5' American tr. grd. pl. rad., gr. box dr.
4' Cisco (Mueller) pl. radial, gear box dr.
2' American triple grd. pl., radial, gr. box.
No. 1 and No. 3 W. F. & John Barnes horizontal radials.
3½' Cinti-Bickford pl. radial, gr. box dr.
2' Foedick plain radial gear box drive.
2½' and 3' Carlton ball bearing sensitive radial, tapping attachments.
No. 314 Baker Bros heavy duty.
36" Cincinnati-Bickford upright.
32" Reed-Prentice upright gear box, tap.
26" Reed-Prentice upright, gear box.
28" Cincinnati-Bickford upright gear box, also tapping.
25" W. F. & John Barnes upright.
24" Aurora upright.
Henry & Wright 3-spdl. ball bearing.
26" W. F. & John Barnes 3-spindle gang drill.
No. 0 Fox multiple, with 6 spindles, No. 1 Morse taper.
No. 12 MINSTER Jr. heavy duty drill, tapping attachment.
22" W. F. & John Barnes upright.
24" Cinti.-Bickford upright, tapping att.

Engine and Turret Lathes

30"x36' American Tool Works, q. c.
30"x20' Lodge & Davis standard chge.
30"x17' Houston, Stanwood & Gamble heavy duty, quick change.
30"x12' LeBlond heavy duty, q. c.
24"x16' Walcott heavy duty, q. c.
24"x6' Walcott heavy duty, q. c.
24"x10' Bove & Emmes, quick change.
21"x10' LeBlond heavy duty, quick chg.
20"x12' Hendey, yoke hd., q.c., with tap.
20"x12' Lodge & Shipley, q. c.
18"x8' Rockford, q. c.
18"x8' Lodge & Shipley, q. c.
18"x12' South Bend std. change taper att.
14"x6' Hendey yoke head, q. c. tap. att.
13"x6' Willard ball bearing geared head.
16"x8' Hendey, yoke hd., q. c., with tap.
16"x6' Lodge & Shipley, q. c.
21" & 24" Gisholt late type turret lathes.
3"x36" Jones & Lamson flat turret lathes, geared head.
21½"x26" P. & W. flat tur. lathe, grd. hd.
Nos. 2, 4 & 6 Warner & S. turret lathes.
No. 4 Brown & S. wire feed screw mch.
Nos. 2 and 4 Foster turret lathes.
No. 4 Millholland turret lathe.

Shapers and Planers

26" Kelly heavy duty b. g. crk. shaper.
24" Smith & Mills, b. g. crank.
24" Cincinnati heavy duty, b. g. crank shaper, 95% new.
20" Cincinnati heavy duty b. g. crank.
20" Steptoe heavy duty, b. g. crank.
18" Hollingworth, back geared crank.
16" Cincinnati heavy b. g. crank.
15" Smith & Mills plain crank.
38"x38"x18' Niles Tool Works pl., 2 hds.
36"x36"x14' American, 2 heads.

EASTERN MACHINERY C

We also Buy machiner

Guaranteed Machine Tools

Gear Machinery and Grinders

No. 12 Barber-Colman gear hobbers, serial over 1800.
No. 18-H Gould & Eberhardt high duty gear hobbers.
60" Newark auto. spur gear.
No. 4—48" B. & S. auto. spur gear cutter.
No. 3—26" B. & S. auto. spur.
No. 12 B. & S. auto. spur and bevel cap. 12" gear.
No. 10 Bilton gear hobber, cap. 10" gear.
No. 70 Heald internal grinder, late type.
No. 60 Heald cylinder grinder, late type.
No. 120 Gardner double disc.
Walker single stroke surface grinder, magnetic chuck.
Wilmarth & Morman hand fd. sur. griner.
6"x32" and 10x36" Norton plain.
8"x30" Modern pl. self-contained grinder.
No. 2, 12"x36" Cincinnati plain grinder.
Nos. 1 and 3 Brown & S. univ. grinder.
No. 2 OHIO univ. tool & cutter grinder.
No. 6—26" Gardner disc grinder.
No. 10—18" Besly disc grinder.
No. 1 R.K. LeBlond univ. tool & cutter gr.

Miscellaneous

Air Compressor, 18x12x12 Laidlaw-Dun Gordon, 2-stage, steam driven.
Air Compressor, 10"x10" Ingersoll-Rand, E. R. I., complete with receiver.
Arbor Press, No. 5 Greenerd.
Arbor Press, No. 4 Atlas.
Bolt Cutters, 1", and 3" Acme, class A.
Bolt Cutters, double, 2" Acme Class A.
Bolt Threading Machine, 1" Landis, with lead screw attachment.
Boring Mill, No. 21 Lucas horizontal, gear box drive.
Boring Mill, 24" Bullard vertical, rapid production type.
Boring Mill, 36" Gisholt vert. turret head, power rapid traverse, motor drive, 98% new.
Broaching Machines, No. 2 and No. 3B J. N. Lapointe.
Broaching Machine, No. 3A LaPointe of Hudson.
Hammer, 600-lb. Chambersburg steam.
Hammers, 40 and 60-lbs. Bradley rubber cushioned helve.
Keyseater, No. 00 Baker Bros., capacity ¾" keyways.
Keyseater, No. 1 Catlin capacity 1½" keyways.
Press, No. 92-D Toledo, double crank geared.
Press, power, P No. 4 Ferracute.
Press, power, C No. 3 Ferracute.
Press, power, No. 5 Toledo, o. b. i.
Press, power, No. 6 Consolidated, o. b. i.
Press, power, No. 6 Chas. Leffler, o. b. i.
Press, power, Atlas arbor No. 55, belt drive.
Presses, power, 15 and 30 ton Lucas forcing.
Riveting Hammer, No. 2A heavy duty High Speed.
Shear, power, 42" No. 242 Niagara, capacity 14 gauge.
Shear, power, 8' George A. Ohl, cap. 3/16".
Tapping Machines, Garvin automatic, Nos. 1, 2 and 2-B. G.

And many others;—Send for our new stock list.

8 E. Pearl St., CINCINNATI, O.

hat have you to Sell?

Real Bargains
Some Brand New

LATHES

18"x 8' Morris Q. C., New.
18"x10' Morris Q. C., New.
22"x10' Morris Geared Head, New.
22"x12' Morris Q. C., New.
32"x17' Pond Single B. G., Cone.
42"x16' Niles, T. G., Cone.

SHAPERS & SLOTTERS

16" S. G. Stockbridge - Worcester, New.
16" B. G. Stockbridge - Simplex, New.
26" Bement Dbl. Traveling Hd., Mtr.
15" Bement Slotter 220 v., D. C.

RADIALS

5' Niles Universal Gear Box.
6' Niles Universal, Motor.

BORING MACHINES

5" Bar Niles Floor Borer.
18" P. & W. Side Head Mill.
42" Niles B. & T. Mill.
44" Niles, with R. H. Turret Head, 220 v., D. C.

PLANERS

32"x32"x10' Niles, 2 Heads.
32"x32"x12' Pond, 2 Heads, Motor.
36"x36"x10' Niles, 4 Heads.
36"x36"x10' Pond, 3 Hds., Rev. Mtr.
36"x36"x12' Pond, 4 Hds., Rev. Mtr.
38"x38"x12' Niles, 2 Heads.
38"x38"x16' Niles, 3 Heads.
42"x42"x12' Niles, 4 Heads.
42"x42"x14' Pond, 4 Heads, Motor.
48"x48"x16' Pond, 4 Heads.
48"x48"x20' Pond, 4 Heads, M. D.
72"x72"x34' Niles, 4 Hds., Rev. Mtr.
10'x10'x36' Betts, Motor, 4 Heads.

PUNCHES & SHEARS, AND MISCELLANEOUS EQUIPMENT

¾" Cap. L. & A. Plate Shear, Motor.
⅞"x⅞" Cap. 12" Throat L. & A. Horizontal Punch, arran. for Mtr.
185 lb. Motor Driven Air Hammer.
800 lbs. Bement Sgl. Frame Hammer.
2" Cox Lever Grip Pipe Machine, D. C. Motor.
DA2-Wilson, 220 v., D. C. Welder.

The Niles Tool Works Company

Division Niles-Bement-Pond Company

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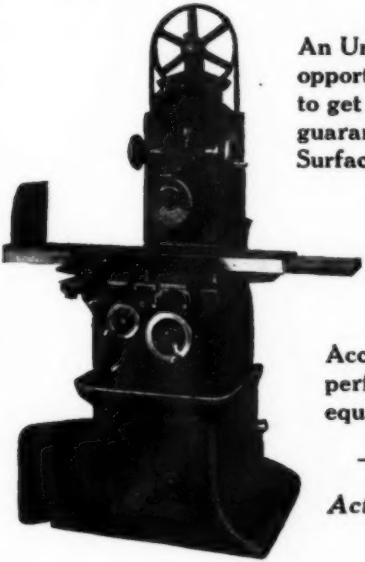
ABRASIVE SURFACE GRINDER

Two Factory Used and Rebuilt

No. 3 Machines Offered at a Low Price



An Unusual opportunity to get a fully guaranteed Surface Grinder

Accuracy and performance equal to NEW

Act Quickly

Abrasive Machine Tool Co.

East Providence, R. I.

Bath's Guarantee

Boring Mills—Vertical

42" Bullard 2 swivel heads.
42" King, 2 swivel heads, rapid traverse.
44" Baush, 2 swivel heads.
42", 48" and 54" Colburn boring mills.
72" Pond, 2 swivel heads, heavy.
96" Niles, 2 heads, very good.

Boring Mills—Horizontal

3" bar Binsse, table type.
3½" bar Rochester, floor type.
3½" bar Landis, floor type.
5" bar Beaman & Smith, floor type.

Drills

4-spindle 20" Barnes.
4-spindle Moline rail drill, 1½" capacity.
3' Prentice radial.
No. 1, 8' wall radial.
24" Cincinnati, sliding head, friction back gears.
28" Cincinnati, sliding head.
30" Aurora, sliding head.
24" No. 25 Foote-Burt, with compound table.

Forging Machines and Bulldozers

1½", 2½" and 3" Ajax Upsetters.
¾", 1¼" and 1½" Acme steel bed Upsetters.
4 & 5 Williams & White Bulldozers.
250-ton Mesta Steam Hydraulic, 85%.

Grinders

No. 2 Diamond surface, table 36"x12".
84" Diamond surfacer.
18x96" Norton plain.
17x36" Landis universal.
No. 2 Brown & Sharpe Surface Grinder.
No. 2 Norton universal tool and cutter.
No. 20 Safety electric floor grinder, 10 HP motor, 32"x4" wheels.
No. 190 Wells universal tool and cutter.
Various electric floor grinders and grinding stands.

Keyseaters

No. 00 Baker, capacity ¾"x8", tilting table.
No. 1 Baker, capacity 1"x12", tilting table.
No. 3A Mitts & Merrill 2"x25".
No. 5 Mitts & Merrill, 25" str., cap. to cut keyways up to 3½" wide.
No. 2 Baker Bros. 2"x18", tilting table.
All Keyseaters have large equipment.

Lathes

14" to 18"x6'-9' beds, tool room.
30"x14' Boye & Emmes, double back geared.
36"x14' Schumacher & Boye, triple geared.
48"x26' Bridgeford, grd. hd., t. a.
48"—60"x34' Houston, Stanwood & Gamble, grd. hd., mtr. dr.

CYRIL J. BATH & CO., E. 70th

Cleveland Stock

Hydraulic Equipment

175-ton R. D. Wood 4-column Flanging Press.
Morgan Hydraulic Riveter, 8' 6" gap.
Wood and Bement-Miles Hydraulic Riveters, 10' 6" gap.

Tumbling Barrels

Several sets 18"x48" steel lined, square, with roller bearings and exhaust.

Milling Machines

Style "B" Gooley & Edlund, table 54"x11½", (2).
20"x7½"x18" Oesterlein plain, belt drive.
No. 1 Rockford plain, back geared, 22"x6½"x15'.
No. 2-B heavy Brown & Sharpe plain, 28"x10"x19".
No. 3 Hendey, geared head, plain.
No. 4 Cincinnati high power miller, table 64½"x16½".
Becker miller, model "C", table 14"x54".
No. 5 Becker vertical.

Planers

22"x24"x57" Fitchburg, single head.
30"x30"x8' Gray, single head.
48"x48"x18' Pond, 4 heads, heavy duty.
60"x60"x20' Cincinnati, 4 heads, 3 speed, very good.
72"x72"x16' Betts, four heads.

Punches and Shears

84" throat, Long & Allstatter, capacity about ¾" thru ¾".
Kling Bros. horn press, 60" horn, flywheel 50" dia. 6½" face.
48" throat No. 4 Southwark, capacity 2"x1¼".
36" throat Lennox rotary shear, capacity about ½" plate.
15" throat No. 14 Williams & White.
No. 4-R United Engineering alligator shear, 12" blades, 3" cap.
No. 18 Carlin alligator shear, 2¾" capacity, 23" blades.
76" Multiple punch, shear or press, ⅝" capacity.

Turret Lathes and Screw Machines

3"x36" Jones & Lamson.
18" Libby, bar and chucking equipment.
No. 4 Bardons & Oliver.

MISCELLANEOUS

Acetylene Generator.
Blower, No. 4 Root, motor drive.
Blowers, Nos. 1 & 2 Buffalo Forge.
Band-saw, No. 8 Marvel metal.
Bolt cutter, Acme, 1" capacity.
Chain Hoists, ½, 1, 1½, 4 & 6 ton.
Cold Saw, No. 4 Cochrane-Bly.
Cold Saw, 48" Newton.
Gear Cutter, 36" Gould & E.
Hammer, 100 lb. Bradley helve.
Pipe Machine, 4" Jarecki.
Press, No. 66 Consolidated, 4" str.
Press, 30 ton Lucas forcing.
Pyrometer, Brown.
Shaper, 12" Springfield crank.
Shaper, 24" Rockford.
Slotter, 48" Niles-Bement-Pond, motor drive.
Slotter, 10" Newton.

Machinery Av., N. E., Cleveland, O.

Here's Your Opportunity To Secure Real Values—

1 24" Weigel Drill Press.
3 Fellows Gear Shapers.
3 No. 6 Foster Screw Machines.
2 No. 4 Southworth Screw Machines.
1 No. 4 J. N. LaPointe Broach and Extension.
1 No. 3 Landis Universal Grinder 16x36.
1 14x50 Norton Plain Grinder.
1 12x96 Landis Plain Grinder.
1 26"x26"x8' E. C. Pease Planer.
1 6' Niles Radial Drill.
1 Webster & Perks Universal Grinder.
1 10½ Bardons & Oliver Turret Lathe.
1 Bryant Internal Grinder.
2 6" Gleason Generators.
1 No. 2 Warner & Swasey Hand Screw Machine.
2 No. 2 Leisy Patton Hand Screw Machines.
1 No. 2 LaPointe Broach, 2-spindle.
1 American High Pressure Blower.
1 6x15 Fitchburg Grinder.
1 Tilted Metal Cutting Band Saw.
1 3" National Bolt Cutter.
1 4" Acme Bolt Cutter, 4½" capacity.
1 Warner & Swasey Knee Type Boring Mill.
1 20"x14' F. E. Reed Screw Cutting Engine Lathe.
1 S. W. Putnam (Fitchburg) 44"x45' triple gear Engine Lathe, 11 H. P. motor.
1 Cordesman Iron Tilting Top Saw Table.
1 12" Cincinnati Manufacturing Miller.
1 3½x84 Fitchburg Lo-swing Lathe.
1 Curtis Oil Separator and Hoist.
3 32"x12' Pittsburgh Screw Cutting Engine Lathes.
1 14"x6' Hendey Lathe.
1 18" Cincinnati Miller, 95% new.
1 Cincinnati Tool and Cutter Grinder.

The EMPIRE MACHINERY EXCHANGE CO., Inc.
***Offices and Warehouses:* 2261 E. 14th St., Cleveland, Ohio**

Prices To Force Immediate Sale

BORING MILLS

42" Bullard New Era vertical turret.
36" Bullard New Era vertical turret.
24" Bullard New Era vertical turret.
61" Bullard Maxi-Mill.
72" Cincinnati, 2 swivel heads.
96" Cincinnati, 2 swivel heads.
62" Niles-Bement-Pond, 2 swivel hds.
53" Niles-Bement-Pond, 2 swivel hds.
The preceding machines are all latest type, with power rapid traverse.
16'—36' Niles extension, 2 swivel hds.
14'—20' Betts extension, 2 swivel hds.
42" Bullard, 2 swivel heads, s. p. belt or motor drive.
Lucas horiz. boring mill, 3" spindle.
Barrett cylinder boring mills, sizes 1 to 3.
Horizontal Boring Mills, No. 2 B. & S.; Niles-Bement-P. 4½" & 6½" spindles; Rochester 3½" spdl.; Detrick & Harvey 5" spindle.

RADIAL DRILLS

6' Cincinnati-Bickford full univ.
3' Cincinnati-Bickford plain.
4' Bickford plain, s. p. d.
5' Baush plain, s. p. d.
Full Universal Portable Radial.

SHAPERS

16" American.
15" Potter & Johnston.
16", 20" and 24" Gould & Eberhardt.

MILLING MACHINES

No. 4 LeBlond plain.
No. 3 Owen universal.
No. 3 Cincinnati universal.
No. 3 Brown & Sharpe plain.
Nos. 2 & 4 Cincinnati vertical.
O. Y. Brown & Sharpe plain.

PLANERS

24"x24"x 6' Gray, single head.
24"x24"x 6' Pond, 2 heads.
42"x42"x12' Detrick & H. open-side.
96"x72"x24' Detrick & H. open-side.
60"x60"x20' Cincinnati.
30" Cleveland rotary planer.

LATHES

60"x40' Fifield, triple geared.
48"x18' Houston, Stanwood & Gamble, q. c. g., d. b. g.
30"x18' Houston, Stanwood & Gamble, q. c. g., d. b. g.
36"x30' Lodge & Shipley, selective head, m. d., q. c. g.
30"x20' Fitchburg.
36"x36' Bridgeford, grd. hd., q. c. g.
18"—36"x8' Fay & Scott gap lathe.

TURRET LATHES AND SCREW MACHINES

No. 2-A Warner & Swasey, bar and chucking equipment.
No. 3-A Warner & Swasey.
26" Libby.
18" Libby.
No. 4 Warner & Swasey.
9/16" Gridley 4-spindle auto.
1⅛" Gridley 4-spindle auto.
2¼" Gridley 4-spindle auto.
No. 0 B. & S., wire feed.
1¼" Cleveland Model B.
No. 56 National-Acme.

GRINDERS

Norton pl., 3"x18", 6"x32", 10"x72".
Norton 20"x96" roll grinder.
Brown & Sharpe plain, Nos. 10, 11, 16 and 2 surface.
84"x24" Diamond open-side surface.
No. 16 Blanchard vert. surface, direct motor driven.
14" Pratt & Whitney vert. surface.
Nos. 50, 60, 65 Heald cylinder.
No. 70 Heald internal.

POWER PRESSES, SHEARS, ETC.

Bliss Nos. 18, 19, 20 incl.; Nos. 74½, 75½, 78½ and 87 s. s.
No. 2 Niagara incl.
Nos. 54 and 58 Toledo s. s.
No. 3 Hilles & Jones dbl. end punch.
Lennox ½"x44" thrt. rot. split. shear.
No. 3 LaPointe broach.

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PARTIAL LIST

LATHES AND BORING MILLS

30" (34½")x16' Lodge & Shipley Q. C. G. Lathe.
25"x12' LeBlond Q.C.G. Lathes (2).
13"x21"x8' Star Gap Lathe.
28" Gisholt Turret Lathe, belt driven.
No. 2 Foster Screw Machine.
3" & 4" Horiz. Boring Mills, (2).
42" Bullard Rapid Production Vertical Boring Mill, 220 Volt, D. C., M. Drive, turret head on rail.
42" Bullard Vertical Boring Mills.
37" Baush Vertical Boring Mill.

MILLERS AND GRINDERS

No. 5B Brown & S. Plain Miller.
No. 4 Cincinnati Plain Miller.
No. 3 Kempsmith Plain Miller.
No. 3 Kempsmith Universal Miller.
No. 3 Becker Vertical Miller.
No. 2½ LeBlond Plain, cone drive.
No. 2 Kempsmith Plain Miller.
No. 1 Cleveland Plain, S. P. D.
No. 13 Garvin Plain Millers, (2).
No. 60 Heald Cyl. Grinder, No. 2133.
12"x72" Norton Cylindrical Grinder.
4"x30" P. & W. Cylindrical Grinder.

RADIALS AND DRILL PRESSES

6' Bickford Plain Radial.
Sipp Single Spindle Sensitive.
Barr 6-Spindle Sensitive Drill.
No. 25 Foote-Burt Hvy.Duty, cap. 3".
24" Aurora Sliding Head Drill.
24" Weigel Sliding Head Drill.

SHAPERS—PLANERS—SLOTTERS

16" Stockbridge, Crank Shaper.
20" Smith & M. Crank Shaper, new.
24" Cincinnati B. G. Shaper.
10" & 18" Betts Slotters (2).
24"x24"x10' Chandler Planer.
30"x30"x 8' Pond Planer, 2 heads.
36"x30"x16' Whitcomb-B. Planer.
36"x36"x10' Pond Planer, 4 heads.
36"x36"x12' Pond Planer, 2 heads.
36"x36"x12' N. B. P. Planer, M. D.

HAMMERS

1100 lb. Bell Steam Forging.
1100 lb. N. B. P. Forging.
2000 lb. Bell Steam Forging.
200 lb. United Upright Power.

PUNCHES AND SHEARS

36" Cleveland Style EF, 1¼"x1".
21" Hilles & Jones S. E. 1"x¾".
12" Cleveland Style EF, 1¼"x1".
2" Doty Guillotine Bar Shear.

PNEUMATIC RIVETERS

Allen, 72" reach, 12" gap, 10" cyl.
Allen, 36" reach, 12" gap, 10" cyl.
Allen Compression (Angle) lever rive., 11½" dia. cyl., 9⅞" reach, 14" gap.

MISCELLANEOUS

No. 1 Baker Keyseater, capacity 1½" keyways.
24" Brown & Sharpe Gear Cutter.
No. 3B LaPointe Broaching Machine.
4"—6"—8" and 12" Pipe Machines.
No. 20B Bliss O.B.I. Flywheel Press.
P. & W. Flywheel Trimming Press.

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LATHES

48"x40' Pond h. d., triple geared.
42"x22' American geared head, q. c.
36"x30' American geared head, q. c.
36"x20' Niles h. d. triple geared.
36"x12' Bridgeford grd. hd., q. c
21"x12' LeBlond h. d., q. c.
20"x10' Davis, h. d., q. c.
16"x10' Hendey q. c.
16"x 8' Springfield q. c.
19"x10' LeBlond q. c. production.

MILLERS

No. 3 Brown & Sharpe vertical.
No. 5-C Becker vertical.
No. 5-D Becker vertical.
No. 1 Newton vertical.
No. 7-H Becker Lincoln type.
No. 2½ Hendey Lincoln type.
No. 2A Milwaukee plain.
No. 3 Milwaukee plain.
No. 21 Garvin plain.
No. 20 Oesterlein plain.
No. 25 Oesterlein universal.
No. 29 Oesterlein universal.
24"x24"x12' Ingersoll horiz. slab.

GRINDERS

16"x66" Landis universal.
10"x48" Landis universal.
16"x36" Landis universal.
16"x68" Landis crankshaft.
12"x36" Fitchburg cylindrical.
No. 60 Heald cylinder.
No. 3 Diamond auto. surface with 7"x26" magnetic chuck.
No. 3 Diamond wet tool.

PRESSES

No. E-57 Ferracute 2½" stroke.
No. 28 Toledo trimming.
No. 75½ Bliss trimming.
No. 4 Pratt & Whitney trimming.
No. 5 Crosby Stiles type.
No. 6 American Can inclinable.
No. 4 R. & K. inclinable.
No. 2 L. & A. Style A forming press 12'—100 ton pressure.

PLANERS

60"x60"x18' Pond 2-heads.
48"x48"x18' New Haven 1-head.
48"x48"x 8' Sellers 1-head.
30"x30"x 6' Gray 1-head.
24"x24"x 8' Gleason 1-head.
22"x22"x 5' Gray, 1-head.
F2 Newton planer centers.
48" Niles rotary planing machine.

SHEARS

30" M. & H. guillotine, cap. 6"x6".
48" Lewis gate, cap. 1¼".
6' Lennox rotary, cap. ¾".
30" Bethlehem rotary, cap. ¼".
24" thrt. Morgan dbl. end, cap. 1".
No. 7 United alligator, cap. 6"x6".
No. 2 Carlin alligator, cap. 5"x5".

HAMMERS

6000 lb. Chambersburg d. f. steam.
4000 lb. Niles d. f. steam.
2500 lb. Chambersburg d. f. steam.
2000 lb. Chambersburg d. f. steam.
4000 lb. Niles s. f. steam.
1500 lb. Niles s. f. steam.
800 lb. Niles s. f. steam.
3000 lb. Bliss board drop.
2500 lb. Bliss board drop.
2000 lb. Bliss board drop.
1000 lb. Union board drop.
800 lb. Union board drop.
500 lb. Bradley upright.
80 lb. Bradley helve cushion.

MISCELLANEOUS

No. 7 Ajax bulldozer.
No. 6 Ajax bulldozer.
No. 4-B W. & W. bulldozer.
2" National d. h. bolt cutter.
6" Bignall & Keeler pipe mchc.
1" National washer machine.
2" National washer machine.
66" Allen air riveter.
No. 4 Langeleir swaging.
10 ton Morgan electric crane, 73'.
10 ton Shaw electric crane 65'.
5 ton Whiting electric crane, 35'.

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CHICAGO Pneumatic Air Compressor, 10"x10".
BLISS No. 409 Toggle Drawing Press.
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BLISS No. 10-B Double Crank, Wgt. 110000 lbs.
BLISS No. 4 Stiles Press, flywheel type.
BLISS No. 31 Overhanging Flywheel Press.
BLISS No. 61 Flywheel Press, wgt. 2000 lbs.
BLISS Stiles No. 3 Geared Press.
BLISS No. 73½ Straight Side Geared Press.
BLISS No. 75½ Press, 6" stroke, Tie Rod.
STOLL No. 68 Straight Side Geared Press.
TOLEDO No. 54 Geared Straight Side Press.
TOLEDO No. 96-F Double Crank Geared Press.
TOLEDO No. 55½ Straight Side Trimming Press.
TOLEDO 164½, 167, 168¾ Toggle Drawing Press.
TOLEDO No. 5 Inclinable, flywheel.
TOLEDO No. 666 Knuckle Joint 1000-ton Press.
CONSOLIDATED No. 56 Flywheel Trimming Press.
CONSOLIDATED No. 65 Geared Straight Side Press.
CONSOLIDATED No. 165 Flywheel Double Crank.
FERRACUTE EG-6 100-ton Embossing Press.
FERRACUTE D-66 Straight Side Reducing Press.
FERRACUTE No. DD-66 Cam Drawing Press.
KELLEY 20", STOCKBRIDGE 20" & AMER. 24" Shapers.
NIAGARA 31"x3" Slip Roll Forming Machine.
WILLIAMS WHITE Nos. 0, 1, 4, 7, 28 Bulldozers.
LUCAS 30-ton Power Forcing Arbor Press.
ZEH & HAHNEMANN No. 20 Percussion Press.
ERIE 800-lb. Single Leg Steam Hammer.
NAZEL Nos. 2-B and 5-B Air Hammers.
BEAUDRY 50 & 200 lb. Power Hammers.
GARVIN No. 2-B. G. Automatic Tapping Machine.
LANDIS 1" Double Head Bolt Cutters.
LANDIS 1½" and 2" Single Head Bolt Cutters.
NILES Car Wheel Borers.
HIGH SPEED Riveting Hammers, 3-A, 4-A, 5-A and 6-B.
ROCK RIVER Punch, 25" throat, cap. ¾" thru ¾".
NIAGARA No. 642 Power Shear, 42" Blades, 10 Ga.
CANTON No. 5 Alligator Shear, 3" cap.
TOLEDO 8' Power Squaring Shear, cap. ¼".
GEO. A. OHLS 10' & 8' Shears.
COLBURN 30" Mill, turret head.
CLEVELAND Bending Rolls, 10'x¾" & 9'x⅜" Cap.
BERTSCH Angle Bending Rolls, Cap. 2"x2"x¼".
18" LIBBY Lathe.
WARNER & SWASEY No. 4 Turret Lathe.
CINCINNATI-ACME 3¼"x36" Flat Turret Lathes.
CLEVELAND ½" Model "B" & "C" Automatics.
GRIDLEY ¾" & ⅞" Multiple Spindle Automatics.
CLEVELAND Punch Style "G", 42" Thr., Cap. 2" Thru 1".
COLBURN D-3 Drill Press, cap. 3" steel.
ROBINSON 10' Brake, cap. 10 gauge.
WINFIELD Spot Welder, capacity 2 pieces 3/16".

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Every machine listed is on our floor fully guaranteed. If machines prove unsatisfactory, full purchase price will be returned, and freight will be pre-paid.

LATHES

2—24x16 Lodge & Shipley, q. c. g., with taper attachment, c. p. d.
3—22x12 Actual swing 24½", c. p.d., q. c. g., with taper att., like new.
1—16x8 Hendey, single pulley dr., also arranged for motor drive, quick change gears, fully equipped.
1—16x8 Greaves-Klusman, sgl. pulley drive, arranged for motor drive.
1—16x6 Reed, motor drive, with d. c. motor, loose change gears.
1—14x8 Hendey, tie bar head, c.p.d., taper attachment, and drawing-in collets, serial number over 23,000.
1—24x14 Reed Prentice, single pulley drive, geared hd., geared face plate drive, taper attachment, like new.

SHAPERS

2—24" Gould & Eberhardt, back grd., arranged for motor drive, serial numbers over 11,000.
1—21" American back geared, c. p. d.
1—16 Kelly c. p. d., back geared.

MILLING MACHINES

1—No. 4 Cincinnati plain, single pulley drive, very late model.
1—No. 3 LeBlond plain, heavy duty, arranged for motor drive.
1—No. 3 SG. Hendey, sgl. pulley dr.
1—No. 3B Milwaukee, double overhanging arm, arranged for motor dr.
1—No. 2 Cincinnati plain, c. p. d., power feed up and down.
3—No. 2 Milwaukee plain, c. p. d.
1—No. 3 Brown & Sharpe vertical, with rotary table, late model.
1—No. 2 Cincinnati universal miller with vertical attachment c. p. d.
2—No. 1½ Cincinnati universal millers, fully equipped with vertical att.
1—No. 2B Brown & Sharpe plain, sgl. pulley drive, vertical attachment.
2—No. 22 Garvin vertical, new.
1—No. 20 Garvin vertical, new.
1—No. 3 Cincinnati plain, c. p. d.

BORING MILLS and RADIAL DRILLS

1—42" Bullard Boring Mill, 2 heads on cross rail, with 10 H. P., d. c. motor, push button control.
1—42" Bullard Boring Mill, cone pulley drive, 2 heads on cross rail.
1—36" Baush Boring Mill, 2 heads on cross rail, motor drive.
1—21 Lucas horiz. Boring Mill, 2½" bar.
1—4' Cin.-Bickford Radial Dr. like new
1—4' American Full Univ. Radial, serial number over 50,000, like new.
1—5' Bickford of Cincinnati full universal radial.
1—5' Prentice mtr. dr., with a.c. motor.
1—30" Roger, Boring Mill, s. p. d.

MISCELLANEOUS

1—No. 2A Warner & S. turret lathe, with bar and chucking equipment.
2—No. 33 New Britain Automatic chucking machines.
3—2x24 Jones & L. flat turret lathes.
5—3x36 Jones & L. flat turret lathes.
3—2-spindle Jones & Lamson.
3—3¼" Gridley sgl. spdl, automatics.
3—5¼" Gridley sgl. spdl. automatics.
1—48x48x14 Woodward & Powell Planer, 4 heads on cross rail.
1—30x30x8, 2 heads on cross rail.
1—24x24x6 Cin., 1 hd. on cross rail.
1—14x50 Norton Cylindrical Grinder.
1—Billings & Spencer 800-lb. hammer, type B.
1—Excelsior Tire Press, 225 t. pressure.
3—24" Cin.-Bickford sliding hd. drills.
1—36" Cincinnati-Bickford sliding hd. drill, with tapping attachment.
2—No. 1½ Bliss Toggle Presses.
1—No. 310 Baker heavy duty drill, with compound table.
1—4-spindle Sipp Drill Press.
1—2-sp. Leland Gifford high spd. drill.
1—No. 23 Foote-Burt Drill, single pulley drive.
1—No. 2 Brown & Sharpe Universal Grinder, fully equipped.

Associated Machine Tool Co., Inc.

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REBUILT—Condition Guaranteed On a Money Back Basis

LATHES

14"x 6' Whitcomb-Blaisdell.
14"x 8' Fay & Scott, taper.
18"x 8' Lodge & S., grd. head.
20"x 8' Hamilton, dbl. b. g.
20"x10' American, grd hd., q. c.
22"x10' Davis, d. b. g., q. c.
32"x10' Pond pl. change, cheap.
34"x10' Putnam, plain change.
38"x14' Fifield, heavy pattern.

MILLING MACHINES

No. 3H LeBlond, pl. vert. attach.
No. 3 Kempsmith pl., ex. cond.
No. 2B Brown & Sharpe hvy., pl.
No. 25 Becker, plain, (3).
No. 20 Oesterlein, plain.
No. 3 Cincinnati vert., high pwr.
Nos. 3, 5 & 6 Becker verticals.
No. 8 Hendey hvy., Lincoln type.
No. 3½ Pratt & W. duplex.
No. 3 P. & W. die sinker.

SHAPERS AND PLANERS

20" Rockford, b. g. shaper.
20" Kelly b. g. shaper, New
26"x 6' Pond planer, 1 head.
30"x10' Pond planer, 1 head.
30"x 8' Ohio heavy planer.
36"x15' Betts planer, 2 heads.
60"x12' Niles planer, 2 heads.
72"x25' Bement, 3 heads, cheap.

DRILLS

24" Milwaukee, b. g., New.
28" Hamilton, b. g.
24" Foote-Burt, heavy duty.
36" Cin.-Bickford radial, gear box.
36" Dreses radial, plain.
60" Prentice radial, gear box.
No. 2 Foote-Burt, 4-sp. gang drill.

PRESSES

No. 32 Michigan solid back.
No. 93 Consolidated solid back.
No. 55 Adriance dbl. crank.
No. 204-A Toledo d. c. g., 2½" str.

BOLT AND PIPE THREADERS

1" Reliance bolt cutter, ex. cond.
4" Saunders pipe machine.
3½" & 4" Acme bolt cutters.

SCREW MACHINES

⅝"-⅞" Cleve. Auto. ser. 30000, dbl. cross slides, (5).
No. 1 Garvin hand, ⅝" capacity.
No. 3 Superior hand, 1-5/16".
No. 4 Milholland, 1⅝".
1⅝" Kent Owen, grd. fr. head.
21" Libby Turret Lathe.
No. 6 Foster, grd. fr. head.
2" Cleveland model A, ex. cond.
Several ¾" Cleveland and Hartford automatics, cheap.

GRINDERS

6"x32" Norton plain.
14"x72" Norton plain.
16"x96" Landis plain.
No. 85 Heald internal.
16"x48" Landis, crankshaft.
29"x96" Landis, crank.
P. & W. vertical surface grinder.
No. 3½ Van Norman auto. ball race.

MISCELLANEOUS

Boring mill, 36" Niles, 2 heads.
Boring mill, Binsse horizontal.
Keyseater, No. 0 Mitts & Merrill.
Turret lathe, 21" & 24" Gisholt.
Punch, No. 5 Long & Allstatter.
Punch, Badger 1" in 1", 11" thrt.
Riveter, ⅜" Grant spinner.
Riveter, 3A High Speed Hammer.
Slotter, 15" Dill.
Shear, 40-C Williams-White billet, 4¼" cap., with motor.
Upsetter, 2" Ajax.

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BORING MILLS:	30" Bullard Vertical	$450.
	36" American	350.
	42" Bullard Vertical	850.
	52" Niles, 2 heads	650.
	Niles Horizontal Boring, Drilling and Milling Machine, 5" dia. bar.	
DRILLS:	12" Cincinnati Hi-speed.	
	24" Wiegel B. G.	$ 350.
	24" Sibley B. G.	
	36" Aurora.	
LATHES:	18"x 8' 6" Prentice.	
	18"x 8' Pratt & Whitney.	
	24"x10' Putnam t. a.	
	24"x12' Reed, h. s.	
	24"x12' New Haven.	
	26"x12' Bridgeford Heavy Duty.	
	26"x16' Prentice taper attachment.	
	24" Libby Turret.	
	24"x6' Gisholt Turret, 6½" hol. spdl.	$850.
MILLING MCHES.:	No. 5 Brown & Sharpe Plain	$475.
	No. 2M Cincinnati Plain.	
PUNCH & SHEAR:	Canedy-Otto, hand power, ½"x½"	$ 45.
	No. 5 Long & A., d. e., 10" throats, cap. ⅝" thru ⅞".	
	No. 45 Buffalo S. E. Punch & Shear.	
GRINDERS:	No. 1 Wilmarth & Morman Surface.	
	No. 55 Heald Internal.	
	No. 96 Ott Piston.	
	Bridgeport Knife & Drill.	
SHAPERS:	28" Ohio Double Geared	$300.
	24" Gould & Eberhardt.	
	20" Rockford b. g.	
MISCELLANEOUS:	Air Compressor, Chicago 12x14, cap. 275 cu. ft.	$500.
	Blower, No. 2 Roots Rotary.	
	Bolt Cutter, 1¼" National Single Head.	
	Crane, Panama Portable, 2½-ton	$ 60.
	Crane, 20-ton Browning Standard gauge 4-wheel Locomotive, 40' boom.	
	Chain Block, 2-ton Harrington Triplex.	
	Chain Block, 6-ton Yale & Towne Triplex.	
	Gear Cutter, No. 6 Brown & S., cap. up to 72"x13".	
	Motor, 30 h. p. Westinghouse, 3-60-220.	
	Motor, 5 H. P. Westinghouse—3-60-220.	
	Planer, Cincinnati 48"x48"x12'.	
	Planer, Cincinnati 60"x60"x20'.	
	Planer, Cincinnati 42"x36"x12', 2 heads.	
	Planer, Detrick & H. Openside, 96"x72"x26'.	
	Riveters, Allen Portable Pneumatic; Nutcracker and Horseshoe 8", 10", 12", 20" & 26" reach.	
	Saw, Nutter & Barnes Cold.	
	Shear, Carlin Alligator, 2½" square.	
	Shear, Carlin Alligator, 6" square.	
	Slotter, Dill 34" rotary table.	

RUSSELL MACHINE COMPANY

1447 Oliver Building, PITTSBURGH, PA.

Bargains In Used Lathes

1—13"x5' South Bend Standard Loose Change Gear Engine Lathe, 4-step cone, sgl. back gear with comp. rest, small face plate, dbl. friction c. s. Capacity between centers 30"; 1" h. sp. Machine is short large face plate, steady rest and change gears are incomplete. Otherwise cond. in good... $175.

4—13"x6' Sebastian Standard Change Gear Engine Lathes, 4-step cone, sgl. bk. gr., comp. rest, small face plate, dbl. fric. c. s. Takes between centers 37"; hollow sp. 1-5/16". Machine is short large face plate, steady rest and wrenches, change gears are incomplete. Otherwise in good cond. Each 175.

1—16"x8' Bradford Loose Change Gear Engine Lathe, 5-step cone, sgl. bk. gr., c. r., steady rest, large face plate, 15" 4-jaw Independent Cushman chuck dbl. fric. c. s., 1" hollow spindle. Takes between centers 56"... 200.

1—14"x6' Carroll-Jamieson Engine Lathe, 4-step cone, sgl. bk gear. Has quick change box, comp. rest, 10" Cushman 4-jaw Independent chuck, double friction countershaft. Takes between centers 39"..... 175.

1—14"x6' Flather Loose Change Gear Engine Lathe, 4-step cone, sgl. bk. gr., comp. r., steady rest, follow rest, large face plate, dbl. friction c. s.... 150.

2—21"x11' LeBlond Quick Change Gear All Geared Head Single Pulley Drive Engine Lathes, comp. rest, and all regular equipment, including face plates, steady rest and wrenches. Takes between centers 6'. Each..... 700.

1—13"x6' Willard Standard Loose Change Gear Engine Lathe, 3-step cone, dbl. bk. gr., comp. rest., small face plate, dbl. frict. c. s. Takes between centers 36". Machine is short large face plate, some change gears, steady rest and wrenches. Otherwise machine in good condition ..... 175.

1—13"x6' Willard Loose Change Gear Engine Lathe, 3-step cone, dbl. bk. gr., comp. rest, small face plate, single friction., c. s. Takes between centers 36". Machine is short large face plate, some change gears, steady rest and wrenches. Otherwise in good condition..... 175.

2—14"x6' Reed Standard Engine Lathes Loose Change Gear, 4-step cone, single back gear, compound rest, has 12" 4-jaw Independent Chuck, double friction countershaft. Takes between centers 2' 11". Each..... 175.

1—14"x6' Rockford Loose Change Gear Engine Lathe, 5-step cone, single back gear, steady rest, large face plate, taper attach., 10" 4-jaw Westcott chuck, and double friction countershaft. Takes between centers 33"..... 150.

1—15"x6' South Bend Loose Change Gear Engine Lathe, comp. rest, steady rest, follow rest, small face plate, pan bed, taper attch. and dbl. friction c. s. 200.

1—14"x6' Reed Standard Engine Lathe, with 5-step cone, single back gear, compound rest, 12" 4-jaw Independent chuck, double friction countershaft. Takes between centers 2' 11"..... 175.

1—14"x6' Prentice Loose Change Gear Engine Lathe, 4-step cone, single back gear, compound rest, double friction countershaft, 12" 4-jaw Independent chuck. Takes between centers 37"..... 175.

1—14"x6' Prentice Loose Change Gear Engine Lathe, 4-step cone, single back gear, steady rest, large and small face plate, dbl. friction countershaft, 12" 4-jaw Independent chuck. Takes between centers 37"..... 175.

1—14"x6' American Quick Change Gear Engine Lathe, comp. rest, 5-step cone, single back gear, large and small face plate, double friction countershaft, automatic belt shifter. Takes between centers 3' 3"..... 400.

1—14"x6' LeBlond Quick Change Gear Engine Lathe, com. rest, 4-step cone, single back gear, large and small face plate, double friction countershaft, automatic belt shifter..... 450.

1—14"x8' LeBlond Quick Change Gear Engine Lathe, compound rest, large and small face plate, 4-step cone, single back gear, double friction countershaft, automatic belt shifter..... 500.

1—17"x6' LeBlond Heavy Duty Quick Change Gear Engine Lathe, pl. rest, 3-step cone, dbl. friction back gear, dbl. friction c. s., auto. belt shifter... 600.

Peninsular Machinery Co.

429-431 Jefferson Ave. E., DETROIT, MICH.

NEW 3 PHASE MOTORS CHEAP. 3 H. P. $54.50; 5 H. P. $65.50

LATHES

12"x 5' Cleveland, geared head.
14"x 6' Carroll-Jamieson, new, q. c.
14"x 6' Hamilton, grd. hd., motor dr.
14"x 6' Monarch, quick change.
14"x 8' Sidney, double back geared.
14"x 6' Hamilton, style B.
16"x 6' Monarch, motor drive.
16"x 8' Sidney, double back geared.
18"x10' American, quick change.
20"x 8' American, geared head.
20"x10' Hamilton, rapid production.
20"x10' Prentice, taper attachment.
22"x10' Greaves & Klusman.
24"x12' Bradford.
24"x24' Prentice, with raising block.
8x60" & 3½x60" Fitchburg, Lo-Swing.

TURRET LATHES and SCREW MACHINES

Acme ⅝" cap., wire feed column.
No. 4 Defiance, 1¼" capacity.
1⅝" capacity Smurr & Kamen.
1⅝" Milholland.
2x24 and 3x36 J. & L.
No. 1 Foster, 15/16" capacity, (2).
Warner & Swasey No. 2.
No. 52 National Acme.

SHAPERS

14" Niles, traveling head.
14" Steptoe, crank.
16" American tool room.
16" O. & S., b. grd., new, low price.
16" American back geared crank.
16" Cincinnati b. g., motor drive.
16" Barker back geared crank.
24" O. & S. back geared crank.

PRESSES

No. 10 and No. 15 Excelsior, foot.
Nos. 5 and 6 Toledo, o. b. i.
Nos. 3-A & 5-A Willard inclinable.
Nos. 1½, 2, 2½ & 4 Robinson, new.
Emco, bench, for radio parts.
Perkins, dbl. housing, wt. 4,000 lbs.

DRILLS and RADIALS

3' W. E. Gang plain.
No. 1 Baush multiple.
4' Plain Universal Radial Drill Co.
Electric Drills, Black & Decker.
No. 4 Duntley electric.
22", 24", 26", 28" and 32", sliding hd.
6' Ceiling drill.
4-spindle Reed sensitive.
44" Stover.
Hole Hog, No. 66-D, 7-spindle.

MILLING MACHINES

No. 1 Kempsmith universal, new.
No. 2 Kempsmith plain.
No. 3 Kempsmith plain, new.
No. 3 Cincinnati universal.
No. 5-C Becker, vertical.
No. 25 Becker plain, power feed.
No. 2 H Brown & Sharpe plain.
Oesterlein 24x7½x18 plain.
Briggs "A" high duty, 24x8" table.
No. 7 Becker, Lincoln type.

GRINDERS

Nos. 1 & 78 W. & M. surface.
6"x15" Fitchburg plain.
10"x36' Landis plain cylindrical.
12"x36" Cincinnati universal.
16"x42" Landis universal.
36" and 66" Yates plate.
No. 70 Heald internal.
No. 60 Heald cylinder.
Schmitt cylinder grinder.
No. 3 Ohio universal, tool and cut.
J B X, W. & M. tool and cutter.
No. 10 Besly 18" double disc.
No. 20 Bryant, chucking.
Capital internal, new, 2"x2" cap.

MISCELLANEOUS

Band saw, Clark, compound.
Hand saws, Napier 4"x4", 10"x10".
Bending rolls, 7' for ⅜" plate.
Blower, positive pressure, Leiman style "F."
Boring mill, Colburn No. 3, tur. hd.
Boring mill, 50" car wheel.
Brake, 10', 18-gauge metal.
Broaching mchs., 1 and 3 LaPointe.
Compressors, 4x8, 8x8 and 9x8.
Drawing tables, adjust., 42"x6' top.
Gear cutter, No. 3—26 B. & S.
Gear miller, Bilton No. 1.
Hammer, No. 1 Pettingell.
Hammer, 150 lb. Standard drop.
Pipe machines, 2", 4" & 6".
Pumps, Gould triplex, 6½x8".
Punch & shear, ½x½x10" throat.
Riveting hammers, High Speed Nos. 2, 3, 4 & 5-A.
Scale, 1500 lb. Toledo, dial type.
Sceleroscope, Shore type C.
Shear, 60" Peck, Stow & W., 18 ga.
Shear, No. 362 Robinson.
Shear, No. 20 Quickwork, 30" throat.
Shear, circular, Pettingell, 60" thrt.
Tapping machine, Acme 6-spindle.
Threading mche., W. & P. 2-spindle.

THE OSBORNE & SEXTON MACHINERY COMPANY
COLUMBUS Dept. H OHIO

Plate Working Machinery

Machine Tools and Motors

For Sale By

Standard Steel Car Company

Pittsburgh, Pa.

We are offering for sale a considerable amount of Machinery at a fraction of its original cost. All Machinery is in good condition and all Motors will be sold guaranteed and tested before shipment. Space will not permit listing everything we have for sale, which includes the following:

D. C. Motors—½ to 45 H. P.—220 Volts.

A. C. Motors— 3 to 50 H. P. —440 Volts, 3 Phase, 25 or 60 Cycle.

360 Ton Hydraulic Press.

500 Ton Hydraulic Press.

1500 Lb. Chambersburg Single Leg Steam Hammer.

Bridgeford Center Drive Axle Lathes.

42" Car Wheel Borer and Facing Machine.

Horizontal Punches (many sizes).

Vertical Punches (many sizes).

Plain and Radial Drill Presses.

Hydraulic Gap Riveters.

Heavy Double End Grinders.

10 Ton Milwaukee Crane—220 V., D. C. Motors, 22' 6" Span.

3 Ton P. & H. Crane—220 V., 3 P., 60 C. Motors, 29' Span.

3 Ton P. & H. Crane—220 V., 3 P., 60 C. Motors, 37' Span.

All requests for detailed information, prices and location should be addressed to our agents—

Reliance Machinery Sales Co.

1403 Brighton Road, Pittsburgh, Pa.

Below, we list a few machines from our immense stock. We have hundreds more. All are high-grade, guaranteed and real

BARGAINS

LATHES

1—56"-64"x18' Johnston.
1—51"x20' LeBlond.
1—44"x16' Putnam.
4—36"x30' Pittsburgh Geared Hd.
1—30"-34"x12 L. & S. Sel. Hd.
1—26"x16' Bridgeford.
21—26"x10' Canada.
12—25"x12' LeBlond.
1—24"x12' Reed Prentice Grd. Hd.
9—24"x11' Cisco.
10—21"x10' LeBlond.
1—20"x16' American Geared Head.
2—20"x 8' LeBlond.
3—16"x 8' American Gd. Hd.
1—16"x 8' Monarch.
3—16"x 6' Walcott.
2—14"x 8' Carroll-Jamieson.
2—14"x 6' Carroll-Jamieson.

MILLERS

1—No. 6 Becker Vertical.
1—No. 5-C Becker Vertical.
5—No. 3 Brown & Sharpe Vert.
1—No. 2B Milwaukee Vertical.
2—No. 4-B Becker Vertical.
1—No. 4 LeBlond Plain.
1—No. 4 Cincinnati Plain.
3—No. 3 Kempsmith Plain.
1—No. 2-B Hvy. Brown & Sharpe.
1—No. 2 Cincinnati Plain.
1—No. 2-B Milwaukee Universal.
1—No. 2 Cincinnati Universal.

PLANERS

1—72"x56"x36' Cincinnati.
1—60"x48"x30' Hamilton.
1—42"x42"x22' Niles-Bement-Pond.
3—36"x36"x18' Cincinnati.
1—36"x36"x12' Woodward & P.
1—36"x36"x12' Gray.
1—30"x30"x14' N. B. P.
1—30"x30"x 8' N. B. P.

PRESSES

1—96-G Toledo Double Crank.
2—No. 56 Ferracute.
1—No. 16½ Toledo Toggle.
1—No. 3 Loshbough-Jordan.

BORING MILLS—Vertical

5—72" Gisholt.
1—72" Cincinnati.
1—42" Colburn.
1—36" Bullard New Era.
1—30" Bullard.
1—24" Bullard Rapid Production.

BORING MILLS—Horizontal

1—No. 1½ Beaman & Smith.
1—No. 1½ Giddings & Lewis.
5—No. 1 Barrett.
6—2" Bar Rockford.

DRILL PRESSES

1—No. 30 Natco.
1—No. 310 Baker.
1—No. 24 Foote-Burt.
1—22" Barnes all geared.
10—No. 1-K 8" Henry & Wright.

SLAB MILLERS.

6—24"x24"x12' Ingersoll.
1—24"x24"x 8' Ingersoll.
1—24"x12"x20' Ingersoll.
1—32"x32"x12' Ingersoll.

GRINDERS

4—22" P. & W. Vert. Surf.
1—20"x96" Landis.
3—14"x50" Norton.
3—10"x72" Norton.
3—10"x36" Norton.
6—6"x32" Norton.
1—No. 70 Heald.

Our Guarantee: Your money back if you return a machine within thirty days, freight prepaid.

HILL, CLARKE & CO. of CHICAGO, 645 W. Washington Blvd., CHICAGO, ILL.

Telephone Haymarket 7660 HILCLCO Cable Address "Remand"

REMEMBER!

Our LATHE Values are Unequalled

Your Satisfaction is Guaranteed

Our huge stock also includes Shapers and Planers, Screw Machines and Turret Lathes, Bolt Threaders, Grinders, Drills, Milling Machines and hundreds of miscellaneous items that are never listed.

An exceptional list from which to choose
We solicit your Inquiries

A. R. Marsh Machinery Company
4900 West 73rd Street, Cleveland, Ohio

If Listed Here—It's Good Machinery

Prices are "Right"

MILLING MACHINES

1—Becker No. 7 duplex.
2—Milwaukee No. 2-B univ.
2—Hendey No. 1 universal.
3—Cincinnati Nos. 1½ & 2 Universal.
7—B. & S. Nos. 3A & 2 Universal.
4—Briggs "B" plain miller.
2—Rockford No. 1½, No. 2.
4—Cinti. Nos. 2, 3 & 4 pl., cone dr.
1—B. & S. Nos. 2, 2B, 3B, 4 plain.
1—B. & S. No. 13-B plain.
1—Milwaukee No. 1½B vert.
2—Taylor & Fenn vertical.
11—Becker Nos. 4B, 2B, 5C, C vert.
9—P. & W. 4½x12, 6x48, 6x80 thread.
4—Lees Bradner Nos. 4, 6 thread.
25—P. & W. No. 5 auto.
30—P. & W. No. 4 spline.

GEAR CUTTERS

5—Barber-Colman No. 12.
7—B. & S. 3x36, 3x26, 4x36.
3—G. & E. No. 18-H.
2—G. & E. No. 36-ST, 3 and 4 spindle gear roughers.
1—G. & E. 34" comb. spur & bevel gear cutters.
20—Fellows Nos. 6, 61, 615.
20—Gleason bevel, 6", 11", 18".
1—Lees Bradner No. 2.

BORING MILLS

1—Bullard 24" rapid prod.
1—Cleveland No. 1 horizontal.
1—Colburn 54", 2 swivel heads.
1—Ridgeway 84" vertical, 2 heads..

SCREW MACHINES—Automatic

16—B. & S. Nos. 0, 2, 2G full auto.
14—Gridley 4-spindle. ¾", 1⅛", 1¼", 7/16", 2⅜", 2½".
2—Gridley 4½", 3½" s. s.
3—Cleveland ⅜"-¾", ⅞", 1¼", 2", 2½", 7½" "A".
1—Cleveland ⅜-⅞", ⅞", 1⅛" "B".
1—New Britain 1⅛x7 bar.
6—New Britain No. 24.
2—National Acme Nos. 52, 54.

DRILLS—Multiple Spindle

1—Natco No. 14.
2—Baush No. 2, 24-spindle.
1—Moline No. 5-D, 6-spindle.
12—P. & W. Nos. 11, 12, 13.

DRILLS—Upright and Radial

2—Colburn Nos. 2 and 4.
1—P. & W. No. 1 gun barrel.
2—New Turner No. 3 vertical.
6—Baker No. 310 and 314.
6—Cincinnati 24" sliding head.
1—American 5' triple purpose rad.
1—Baush 6' radial.
1—Niles-Bement-Pond 96" Ridgeway, m. d. pl. rad.

GRINDERS

1—Blanchard No. 10, m. d.
1—Queen City 14x72 plain.
7—Norton 6x32, 10x36, 18x96.
4—B. & S. No. 11, 10 plain.
4—Cincinnati No. 2, 12x36.
1—Springfield 12x12x48 vertical.
1—Persons & Arter 12" surface.
2—Landis 14x48; 16x48 crank.
1—Fitchburg 12x54.
11—Bryant No. 20 chucking.
2—Bryant No. 15, dbl. spindle.
28—Heald Nos. 65, 60 and 70.
1—Van Norman No. 34.
2—Gidding & L. No. 12 teromatics.

LATHES

4—Seneca Falls 12x6, q. c. g.
3—Davis 12"x5', q. c. g.
5—American 14x6, 16x8, s. p. d.
1—Hendey 16x8.
10—New South Bend 15x5, 18x8 gap.
2—Mueller 18x8, q. c. g.
1—American 18x10, s. p. d.
1—LeBlond No. 6 multi-cut.
3—LeBlond 26x10 duplex crank.
1—Bridgeford 26x12', q. c. g.
1—Greaves-Klusman 28x10.
1—Johnson 30x12, motor drive.
1—Bridgeford 32x26', geared head., s. p. d. or m. d.
1—Bridgeford 48x60', hvy. duty, grd. hd., dbl. carriage, arr. for m. d.
2—LoSwing 34x84, 2 car. New Star Lathes, all sizes, with all att.

PLANERS

7—Putnam 26x26x 8', 2 heads.
1—Whitcomb 26x26x6', 1 head.
1—Gray 38x38x20', 3 heads.
1—Putnam 48x48x12', 2 heads.

SHAPERS AND SLOTTERS

2—Stockbridge 16", 24".
2—Smith & Mills 16", 20".

25—HENDEY 12"x5' and 6' Q. C. G. Lathes
6—CINCINNATI 24" sliding head Drill Presses
5—BRIDGEFORD 42"x35' geared head Lathes

MOREY AND CO. INC. 408 Broome St., NEW YORK, N. Y.

Used Machine Tool Bargains

1—LeBlond 25"x18' heavy duty Q. C. G. Engine Lathe, pump, piping, motor driven by Westinghouse 15 H. P. motor, 220 Volts, D. C. ..... $1200.

1—Springfield 26"x10' Universal Turret Lathe with 3-step cone, double bk. gear, screw cutting, semi-qk. change gear, dbl. friction countershaft.. 450.

1—Gisholt 24" Turret Lathe, with 2½" spindle bore ..... 600.

1—Ferracute DGG-56 Straight Side Single Crank Press, with sgl. gearing, friction clutch drive, 20" stroke and with bolster plate ..... 835.

1—Toledo No. 25 Upright Press, plain flywheel type, with one bolster plate, 1" stroke ..... 125.

1—Long & Allstatter 60-lb. Helve Hammer with countershaft ..... 200.

1—Niles 5' Universal Radial Drill, 4-step cone, tilting table, with countershaft ..... 550.

1—Niles 6' Universal Radial Drill, speed box drive, having four changes, box table 28"x29" on side wing, positive reverse for tapping, No. 5 Morse taper in spindle ..... 500.

1—Cincinnati 12"x36" Universal Grinding Mche., with countershaft and drum countershaft and equipment ..... 550.

1—Modern 12"x48" Plain Cylindrical Grinder, carrying wheel 18"x2x5" hole, with self contained countershaft for belt drive ..... 650.

THE E. A. KINSEY CO., 335 West Fourth Street, CINCINNATI, O.

BRANCHES: INDIANAPOLIS, IND., LOUISVILLE, KY., HAMILTON, OHIO, COLUMBUS, OHIO, DAYTON, OHIO.

1", 1½", 2", 2½", 3", 5", 6" Ajax Upsetters.
¾", 1", 1½", 2½" and 4" Acme Upsetters.
Nos. 2, 4, 5 and 7 Williams-White Bulldozers.
50, 75, 100, 500 lb. Bradley Upright Hammers.
40, 60, 80, 100 lb. Bradley Cushioned Helve Hammers.
No. 4-I Nazel Air Forging Hammer, with 15 h. p., a. c. mtr., 220 v., 60 cy., 3 ph.
2000 lb. Erie Steam Forging Hammer, single frame.
Hertsch Plate Shear, capacity 8' of 1", rebuilt, equal to new.
1", 1½", 3", 4" single spindle Landis Threading Machines.
½", 1", 1½", 2½", 2-spindle Landis Threading Machines.
2" Landis Pipe Threading Machine.
¾", 1", 1½" 6 & 8-spindle vertical semi-automatic Nut Tappers.
¾" and 1" Waterbury-Farrel Thread Rollers.
Rock River S. E. Punch, ¾ thru 8", 24" throat, arch. jaw.
Long & Allstatter Type C double end Punch, 18" throat.
Guillotine Bar Shears, 1" to 4".
Toledo No. 5½ geared Trimming Press.
No. 6, ¾" capacity, Waterbury-Farrel Cold Header, D. S. S. D.
No. 1 AA, and 6B High Speed Riveting Hammers, also Grant, Schuster and Williams-White.
200' Steel Shelving.
Economy Power Tiering Machine.
Baker R. & L. Storage Battery Elevating Platform Truck.
Wagenhorst Blueprinting Machine.
No. 65 American Gas Furnace Co.'s Heating Machine.
Nos. 152 and 154 Rockwell Rotary Annealing Furnaces.
Elmes Hydraulic Press, 100 ton capacity, 4 column, platen 24x24".

Donahue Steel Products Co.

Bolt and Forging Machinery Specialists

74th and Ashland Ave., Chicago, Ill.

Slightly Used and Rebuilt Tools

At Attractive Prices

1—No. 4 Colburn Single Spindle Mnfrs. Drill, with pump, capacity 2".
1—No. 2 Colburn Single Spindle Mnfrs. Drill, with pump, capacity 1½".
1—No. 310 Baker Bros. High Spd. Hvy. Duty Sgl. Spdl. Drills, rebuilt.
1—No. 2, Pfauter 39¼", cap. 2½ d. p., auto. Gear Hobbing Mch., 90% new.
1—No 1 Bath Universal Grinding Machine with all attachments, rebuilt.
1—10"x36" Landis Plain Cylindrical Grinding Mche., complete, rebuilt.
2—12"x5' Hendey Cone Head Tie Bar Quick Change Gear Lathes, with oil pan, compound rest, standard equipment, rebuilt.
1—14"x6' Hendey Cone Type Tie Bar Head, Q. C. Lathe, c. r., taper att.
1—18"x8' Hendey Cone Type Tie Bar, Q. C. G. Lathe, c. r., taper att'd., draw-in att'd., std. equipt., rebuilt.
1—14"-28"x10' Fay & Scott Gap Lathe, compound rest, standard equipment, 90% new.
1—No. 3-G Hendey Plain Milling Mche., geared spdl., sgl. pulley drive.
1—1½" Model A Cleveland Automatic Screw Machine, rebuilt.
1—2¼" Milholland Latest Style Geared Friction Head Turret Screw Machine, automatic chuck, bar feed, power feed to turret, oil pan, pump, master collet and assorted bushings, 90% new.
1—No. 2A Brown & Sharpe Universal Milling Machine, rebuilt.

The W. M. Pattison Supply Co.

General Offices and Warehouse, Cleveland, Ohio

Partial List—Attractive Prices

MILLING MACHINES

1—No. 2 B S Milwaukee plain, double over arm, nearly new.
1—No. 3 Cincinnati plain, single pulley drive.
1—No. 2 Cincinnati pl., cone. dr.
6—No. 1 Milwaukee pl.,sgl.p.dr.
No. 2 Cincinnati vertical, rotary table.
1—Model B Becker vertical.
1—Model AB Becker vertical.

DRILLING MACHINES

1—5' American radial, gear box drive, tapping attachment, practically new.
3—3' American high spd. sensitive radial, tapping attachment and elevating table.
6—No.25 Foote-Burt heavy duty drill presses, 1 with comp. tbl.
1—No. 2 Avey 2 sp., high speed.
3—Class K Henry & Wright 3-spindle, high speed.
2—Allen 2-spindle high speed.

PLANERS and SHAPERS

1—30"x30"x16' Gray planer, 3 heads, spiral gear drive.
1—20"x20"x5' Whitcomb planer, single head.
4—18"x18"x4' Whitcomb planer, single head.
1—18" Cincinnati bk.grd.shaper.
2—16" Whipp bk. geared shapers (brand new).
1—17" Smith & M. b. g. shaper.

MISCELLANEOUS

1—No. 12 B. & S. plain grinder, capacity 8"x36", late type.
1—6"x30" P. & W. thread miller.
No. 10 Brown & Sharpe plain grinder, capacity 6"x20".
1—No. 3H Brown & Sharpe gear cutter, cap. 24"x8—3 Pitch.
1—No. 1 Brown & Sharpe Wire Feed Screw Machine.
1—No. 0 Brown & Sharpe Wire Feed Screw Machine.

We have 500 other machines in stock. If you do not see it listed, send us your inquiry.

New Jersey Machinery Exchange

4 Orange St., Newark, N. J.

LIQUIDATING MACHINERY AND EQUIPMENT of Oneida Motor Truck Co., Green Bay, Wisconsin

Following Ironworking Machines at BARGAIN Prices:

No. 302B National Spot Welder for 25-cycle, 440 v., 20" thrt., ¼" cap.
No. 4A High Speed Rivet'g Hammer.
No. 20 Quick-work Rotary Shears, 30" throat.
No. 3 Dreis & Krump Hand Power Bending Brake.
28" Niagara Deep Throat Roll Beader No. 25.
50-ton Lourie type W. Straightening and Bending Press, with pump.
No. 0 Steptoe Hand Miller.
Polishing Lathe, No. 4 Gardner, B. B.
Punch and Shear, No. 3 Royersford, double end.
No. 372 D. H. Stowell 73" gap Shear with 20" gap, for ⅛" steel or lighter.
No. 2 LaPointe Broaching Machine
No. IS Garvin Hor. Duplex Drilling Machine, open belt, screw power feed, with oil pan, pump and piping.
44" Tire Press, 150-ton capacity, 28" stroke, 46" between uprights, 32" between platens, 44" dia. of plates.
No. 8 Bardons & Oliver Screw Machine or Turret Lathe.
No. 1 Acme Bolt Cutter.
No. 14 Besly Double Grinder, without plain table and press.
No. 79 Toledo Trimming Press, 3" stroke, belt drive.
No. 5 Toledo O. B. I. Flywheel Punch Press.
No. 18 Bliss Punch Press, o. b. i., flywheel.

Write us for what you want, and what you have for sale.

NELSON MACHINERY CO., 123 N. Pearl St. Green Bay, Wis.

BORING MILLS

88" Poole vertical, 2 heads, RAPID TRAVERSE, belt or motor.
76" Bullard vertical, 2 heads, belt drive.
72" Bullard vertical, 2 heads, belt drive.
60" Bullard vertical, 2 heads, belt or motor drive.
60" Niles vertical, 2 heads, belt or motor drive.
52" Bullard vertical, 2 heads, RAPID TRAVERSE.
52" NILES-BEMENT-POND, 2 heads, single pulley drive.
51" BAUSH vertical, 2 heads, motor drive, with motor.
42" BULLARD vertical, 2 heads, belt or motor drive.
42" COLBURN vertical, 1 head, belt or motor drive.
30" BULLARD vertical turret head, belt drive.
5" bar BARRETT (BRAND NEW) horizontal, belt or motor.
4" bar BETTS horizontal knee type, belt drive.
3" bar BINSSE horizontal knee type, belt drive.
6" bar BARRETT horizontal, belt or motor driven.
No. 3 Barnes horizontal drilling, milling and boring machine.
No. 1 Barnes horizontal drilling, milling and boring machine.

Any of the above machines can be inspected under belt if you so desire. Write for our "Illustrated News"

Bertolette Machine Tool Company, Incorporated

222-238 Culver Ave., Jersey City, N. J.

SPECIALS

Bending Rolls, 10'x½" Hilles & Jones, rebuilt.
Boring Mills, 50" Bickford vertical; 36" King vertical; 42" Gisholt vert.
Grinders, 18"x96" Norton; also Brown & Sharpe, Modern and Morse.
Keyseaters, Nos. 2 & 4 Mitts & Merrill; No. 2 Davis.
Lathes, 24"x14' Schumacher & Boye, q. c.; 24"x12' Bradford; 21"x12' LeBlond, geared head; 36"x16' Lodge & Shipley; 26"x16' Bridgeford; 38"x16' Fifield; 48"x18' New Haven, triple geared; 48"x28' Niles, triple geared.
Millers, Brown & Sharpe No. 3 vertical; Brown & Sharpe Nos. 2B & 3B plain, single pulley drive; Becker model AB vertical; Oesterlein No. 42 plain, with vertical attach.; LeBlond No. 3 universal.
Planers, Cincinnati 33"x10' and 24"x8', 2 heads; Gray 30"x30"x16', also 24"x8', 2 hds.; Pond 24"x24"x8' hvy. duty, fine condition, 2 hds.
Presses, **12 No. 30 NEW Long & Allstatter Inclinable Presses, 2200 lbs., in original crates;** Ferracute Horning Presses; No. 3-A Willard inclinable; 50-ton Lucas Forcing Press.
Punch and Shear, Badger, ¾" thru ¾".
Radial Drills, 3½' Carlton, 3½' American.
Shapers, 24" Queen City; 20" Smith & Mills; 20" Hamilton; 15" Potter & Johnston; 15" Kelly.

More than 250 other Machines in Stock. Low Prices.

Norton-Broadway Machinery Co., Cincinnati, Ohio

How about these?

Broaching Machine, No.3-B LaPointe.
Drill Presses, 20" various makes complete. Have us send description of one of the 50.
Drill, all geared, 2 spindle, 24" Barnes, s.o., complete for tapping, 99% new.
Drill, sensitive, 2-sp. Barr, pl. bearing.
Radial Drill, 6' Fosdick, single pulley, speed box drive.
Grinder, No. 12 B. & S. pl. cyl.
Grinder, No. 1, 10"x24" B. & S. univ.
Hammer, steam, 250 lb. Niles-B-P.
Hammer, steam, 1100 lb. Niles-B-P.
Pulley Lathe, 36" Streit.
Miller, plain, No. 0 B. & S.
Miller, universal, No. 2 K. & T.
Planer, 48"x54"x10' Hamilton, 4 hds.
Press, o. b. i., grd., No. 21B Bliss.
Press, solid bk., grd., No. 34 Toledo.
Punch, No. 5 L. & A., 24" thrt., capacity ¾" thru ⅝".
Riveter, No. 3-A heavy duty H. S. Hammer.
Shaping Saw, univ., 6"x6" Peerless, with motor.
Screw Machine, auto., 1¼" Cleveland, model B.
Shaper, 24" G. & E., back geared.
Shear, Gate, No. 65 New Doty gap, capacity No. 10 gauge.
Chucking Machine, P. & J. full automatic.
Screw Machine, No. 4 W. & S., grd. friction head.

THE E. L. ESSLEY · MACHINERY · CO

551 W. Washington Blvd., Chicago. 78-80 W. Water St., Milwaukee

Exceptional Values NEW Machine Tools

Lathes

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14x 6 Bradford, q. c. g.
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20x10 Bradford, q. c. g.
16x 8 Hamilton, q. c. g.
18x 8 Greaves-Klusman, q. c. g.

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No. 0 Foster, a. c. & w. f.
No. 1 Foster, a. c. & w. f.
No. 2 Foster, a. c. & w. f.
No. 3 Foster, a. c. & w. f.
No. 7 Foster, a.c. & w. f., f.h. & p. f.

Millers

No. 0 Rockford plain.
No. 1 Rockford hand.
No. 0 Standard hand.
No. 1 Standard hand.
No. 1½ Standard hand.

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60 lb. Helve Hammer.
80 lb. Helve Hammer.
8" Gear Hobber.
Drill Grinder, ¼ to 2½.
3/16 Rivet Spinner.

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1—Waterbury-Farrel, 100 tons.
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1—No. 65 Cons., Tie Rod, geared.
1—No. 67 Consolidated 6" stroke.
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1—No. 56 Toledo, geared.

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1—SRG 102 Ferracute, 40" bet. up.
3—No. S51 Ferracute, 33½" bet. up.
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2—No. 5 Bliss, Stiles, geared.
1—No. 4 Bliss, Stiles, geared.
1—No. 4 Bliss, Stiles flywheel.
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No. 2 Cincinnati universal, cone.
No. 1 Brown & S. universal, cone.
No. 1 Hendey universal, cone.
No. 1 Kempsmith plain, cone.
No. 2 Kempsmith plain, cone.
No. 4B Becker vertical, rotary table.

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48"x36"x16' Niles-Bement-Pond, 2 hds. on cross rail, used less than 3 m.
30"x30"x12' Gray, 2 heads on rail.
24"x24"x6' Gray, 1 head.
16" Ohio shapers, plain, (2).
16" Smith & Mills, b. g.

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Norton plain grinders 6"x30", (2).
Cincinnati No. 2 plain grinder, 12"x36".
Van Norman No. 3 race grinders, (2).
Pratt & Whitney 14" vertical surface grinder, complete with large mag. chuck.
Bryant No. 6 chucking grinder, (2).
Rockford 22" four spindle drill presses, (2).
Cincinnati 42" vertical drills, gear box, (2).
Cincinnati 42" vertical drills, cone drive, (2).
Cincinnati 26" vertical drill, tapping attachment.

MISCELLANEOUS

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Automatic, No. 55 National Acme, high serial, fine conditon.
Engines, 75 h. p. Hewes & Phillips Corliss, (2).
Engine, 125 h. p. Hewes & Phillips Corliss, direct connected to 100 k. w. Sprague generator, 115 v., d. c., speed 175 r. p. m.
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Machine Tools—Woodworking Machinery
Electric Motors

Wayne Machinery Company
FORT WAYNE, INDIANA

Woodward Powell Planer Four Heads 36"x36"x9' 1"

22"x38"x12'—17' Extension Harrington Gap Lathe.
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No. 3A Royersford double end Punch and Shear.
Covington double end Punch and Shear, motor driven, cap. 1¼x1".
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Baker Bros. Keyseater, 2 15/16" slot.
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36"x36x10' 1-hd. Cincinnati Planer
No. 5 Bliss Geared Press.
No. 4 Niagara Flywheel Press.
Higley Cold Saw, 13½" diameter.
32" Newton Cold Saw.
20" Columbia b. g. Shaper.
2½" Cleveland Auto., model A.
40" Detrick & Harvey Horizontal Boring Mill, 3 7/16" spindle.
40" Baush Vertical Boring Mill, two-swivel heads.
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6-spindle Dwight Slate sensitive.
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1000 lb. Bement steam Hammer, single frame.

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24" Snyder, sliding head.
24" Snyder, sliding hd., motor dr.
28" Superior, sliding head.
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American Radial, 3' arm, g. b. d.

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1000 lb. Bement.
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16"x8' Hendey tie bar, serial No. 16800.
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18"x8' Prentice geared hd., motor dr. taper attach. and pan bed.
18"x10' Prentice geared hd., mtr. dr., taper attach. and pan bed.
20"x8' Monarch, d. b. g., q. c. g.
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MISCELLANEOUS

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Planer, 36"x36"x8' Cinti., 2 heads.
Shaper, 7" Rhodes.
Shaper, 16" Cincinnati, motor dr.
Shaper, 20" American, motor dr.

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148 N. 3rd St., Philadelphia, Pa.

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5 No. 2½ Toledo o. b. i. Punch Presses, like new, each	$290.
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3½x60 Lo-Swing Lathe, double carriage, taper attachment	295.
Garvin No. 2½ Screw Machine, p. f. t., collets, wire feed	200.
Pratt & Whitney Bench Lathe, collets, attachments and c. s., ½" cap.	145.
Avey No. 1 bench type, ball bearing, high speed Drill Press	95.
18"x8' Cincinnati q. c. g. Lathe, complete	275.
Lodge & Davis 14" Crank Shaper, complete	155.
Oesterlein Miller No. 1, plain	200.
24" Floor type Drill Press, back geared, power feed	95.
L. & A. Single End Punch, structural head, ⅞" capacity	150.
Jarecki Bolt and Pipe Threader, 1½" capacity	100.
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40 h. p Westinghouse, 440 or 220 v., 60 c., 3 ph., 1150 r. p. m., comp.	250.
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No. 4 Cincinnati high power Plain Miller, single pulley drive.
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1—J. N. LaPointe No. 2 screw feed broaching machine, price..... 250.
1—No. 5-P Becker vertical milling machine, price..... 450.
1—Schuchardt & Schutte gear tooth rounder, price..... 50.
1—No. 1 Adams Farwell hobbing machine, good condition, price 100.
1—No. 14 Higley cold cut-off saw with saw grinder, price..... 85.
1—20" Klem metal band saw, price..... 60.
1—Atkins power hack saw machine, price..... 30.
1—No. 5 Armstrong-Blum Marvel hack saw machine, price..... 30.

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1—36"x36"x20' Hamilton Planer (2 heads on cross rail)..... $1000.
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1—32"x26"x16' Whitcomb second belt planer (2 hds. on cross rail) 2000.
2—8"x60" Low-swing lathes with tailstock, single carriage, each... 500.
2—Fay Automatics, each ..... 500.
1—No. 0 Bristol hand miller..... 50.
1—Pratt & Whitney Lincoln type automatic miller..... 250.
1—Wet tool grinder ..... 25.

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Special Bargains In Good Used Machinery

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1—2½" Bar Cleveland Horizontal Boring Mill complete with outboard support and rotary table..... 1150.
1—48"x48"x10' G. A. Gray Planer, 2 heads on rail..... 800.
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1—No. 8 Pangborn Sand Blast Machine style a. c., complete with Blower and 15 h. p., 220 volts, a. c. motor, sand collector, sand sifter..... 475.
1—No. 28 Greenerd Arbor Press, 36" between housings, comp.... 100.
1—3½"x60" Lo-Swing Lathe, double carriage, tool holders, taper attachment ..... 250.
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1—Brinnell Testing Machine, complete ..... 200.
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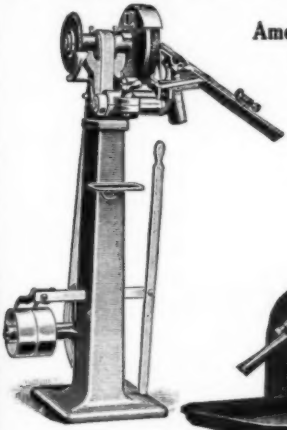
American Drill Grinders

Now Equipped to Handle Taper Shank Drills



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For Dry Grinding Only

Unexcelled as a dry grinder for twist drills. Extra large drill holder has capacity from 1" to 3½".

Style B T A is a similar machine with overhead countershaft.

American Style W T A
For Wet or Dry Grinding

Has the same drill capacity as style C T A, shown above.

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American Drill Grinders are furnished wet or dry, motor driven, with self-contained countershaft or with overhead countershaft, as fully described in our literature.

La Salle Tool Company

Ottawa, La Salle County, Illinois

Formerly of La Salle, Ill.

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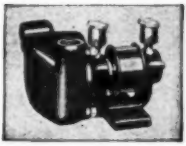
DRESSERS *and* PUMPS



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2180 Clarkwood Road CLEVELAND, OHIO

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The New Britain Machine Co.

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